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The Builder.

DECEMBER 12, 1896.

ILLUSTRATIONS.

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Recent Street Architecture, Berlin.—Messrs. Kayser & Groszheim, Architects ..... *Double-Page Photo-Litho.*
New Business Premises for Messrs. Macmillan & Co.—Mr. John Cash, Architect ..... *Double-Page Ink-Photo.*
Competition Design for Public Library and Baths, Shoreditch.—By Messrs. Wigg, Oliver, & Hudson ..... *Single-Page Photo-Litho.*
Competition Design for West Ham Technical Institute and Public Library.—By Mr. C. Coggin, A.R.I.B.A. ..... *Single-Page Photo-Litho.*

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The Berlin Book of Buildings.

WE have mentioned before that an illustrated and descriptive book of the architectural and constructional works of Berlin was to be got up in commemoration of the conference of the German architectural and engineering societies in the German capital not long since. The publication, of which a copy has been forwarded to us,* may indeed be called a monumental production. It consists of two thick quarto volumes, the first dealing with engineering and sanitary works; the second, comprising two parts, dealing with the works of specially architectural character which are included under the German brief and comprehensive definition "Der Hoch-Bau," implying the higher class of building. The work is illustrated by more than two thousand engravings in the text, including plans, elevations, and sections of buildings, besides eighteen separate "lichtdruck" plates, and forms a kind of panorama or catalogue raisonnée of the modern architecture (chiefly) of Berlin.

The Introduction in the first volume gives a short sketch of the history and development of Berlin, commencing with a description of the site, with statistics as to meteorological and other conditions.

The historic chapter, undertaken by Herr K. E. O. Fritsch, is of considerable interest from the succession of old maps and views of the city with which it is accompanied. These do not indeed go very far back, not further than the middle of the seventeenth century; but the old views show a very primitive Berlin at that date. In Caspar Merian's engraving of the seventeenth century we see it as a rather straggling walled town, in the middle of open moorland interspersed with occasional groves of trees. Another engraving, dated 1737, shows a much more crowded city bounded by what seems to be a fence-wall or palisading outside the region of the actual fortification. The fortified Berlin, with the branches of the Spree forming a moat round it, and the fortification lines on Vauban's system, are shown in a very interesting bird's-eye plan by Schulz, dated 1688. In both this and Merian's view we see the Nicolai church with one western spire, instead of the present twin spires. A plan of 1698 shows on a small scale the fortified city, with its irregular outline and rambling lines of street, and outside of it the commencement of the modern district to the west, of straight streets at right angles, and parallelograms of houses, and the wide avenue leading to the Thiergarten. Round the new district are dotted the lines of a fortification to be continued round it on the old system, but which seems never to have been carried out. In the map of Berlin in 1861 we can still trace the outline of the old fortified city in the centre of the later developments. The jump however from this to the map of Berlin in 1896 is a tremendous one, though perhaps not greater than that made by the map of London during the same period; the old city is but a kind of eye in the middle of it. The rigid symmetrical parallelism of the Friedrichs-stadt, the original extra-mural quarter on the west of the city, which was laid out somewhat after the manner of the New York streets, has not been maintained in the more recent extensions; the straight lines of the streets contrast with the rambling lines of the old city, but there is no attempt at the same symmetrical parallelism, which appears to have been a whim of the close of the seventeenth century. Some interesting engravings of the old squares and gardens are reproduced in this chapter.

The engineering portion of the first volume gives sections of Berlin streets, plans of the laying out of the principal points of street junction, illustrations of lamp-posts, public conveniences, &c., about which there is nothing special for remark, followed by a chapter on the parks, with some fine and very attractive views, and then we come on the more serious practical engineering work concerned with docks, wharves, the general river engineering of the city, and the bridges. The designs of the modern bridges are not better, unfortunately, than those of most of the modern London bridges; the new Waisenbrücke, built in 1893-4, seems in fact to be as great a sham as Blackfriars Bridge, and the design of the piers to have been suggested by those of Blackfairs, and if possible made still worse. The Lange Brücke was up to 1894 a very pleasing old bridge with elliptical arches and plain cutwaters and an iron railing; the rebuilt design, with a semi-circular arch in the centre and a very wide elliptical one at each side, is far inferior in effect, though it of course clears the waterway more; but considering the designs of one or two of the other bridges one may admit that it might have been much worse. A considerable amount of constructional detail of the various bridges is given.

The volume contains also a full account and many illustrations of the railway stations, electric stations, fire stations, and other important public structures or works of a technical nature. But we are desirous rather to look at the survey given, in the second volume, of the architecture proper of Berlin. The old classical palaces, dealt with in the first chapter, have nothing specially national in style, as far as the exteriors are concerned; they are somewhat heavy Renaissance designs such as might be found elsewhere. It is only in some of the interior details that the characteristics of German taste come out, in the shape of decorative work which is at once exuberant and rather coarse, and yet with a kind of defiant force about it which to some extent makes up for its defects in taste. There can be no better example of this than is furnished by the illustration given in the book of some of the details of the "Braut-Kammer" in the Königliche Schloss. This, of which only the upper portion is shown, looks like the head of the canopy of a state bedstead; we see the tops of two fluted composite pilasters, with a big cartouche between them surrounded by scrolls, and on the top of each pilaster a female figure in that flustered drapery which the German sculptor is so fond of, one blowing a trumpet, the other holding a palm branch. The whole thing is absolutely devoid of good taste or reticence of style, yet there is an interest about it from its intensely national character and the energy with which it is carried out. Of the monuments illustrated in the succeeding chapter by far the best and also one of the most recent ones, that to Goethe in the Thiergarten, by Schaper, has been illustrated in our own pages, as also that to the Emperor William I. Among the monuments having a

* Berlin und Seine Bauten: bearbeitet und herausgegeben vom Architekten-Verein zu Berlin und der Vereinigung Berliner Architekten. I.; Einleitendendes; Ingenieurwesen: II. und III.; Der Hochbau. Berlin; Wilhelm Ernst & Sohn; 1896.

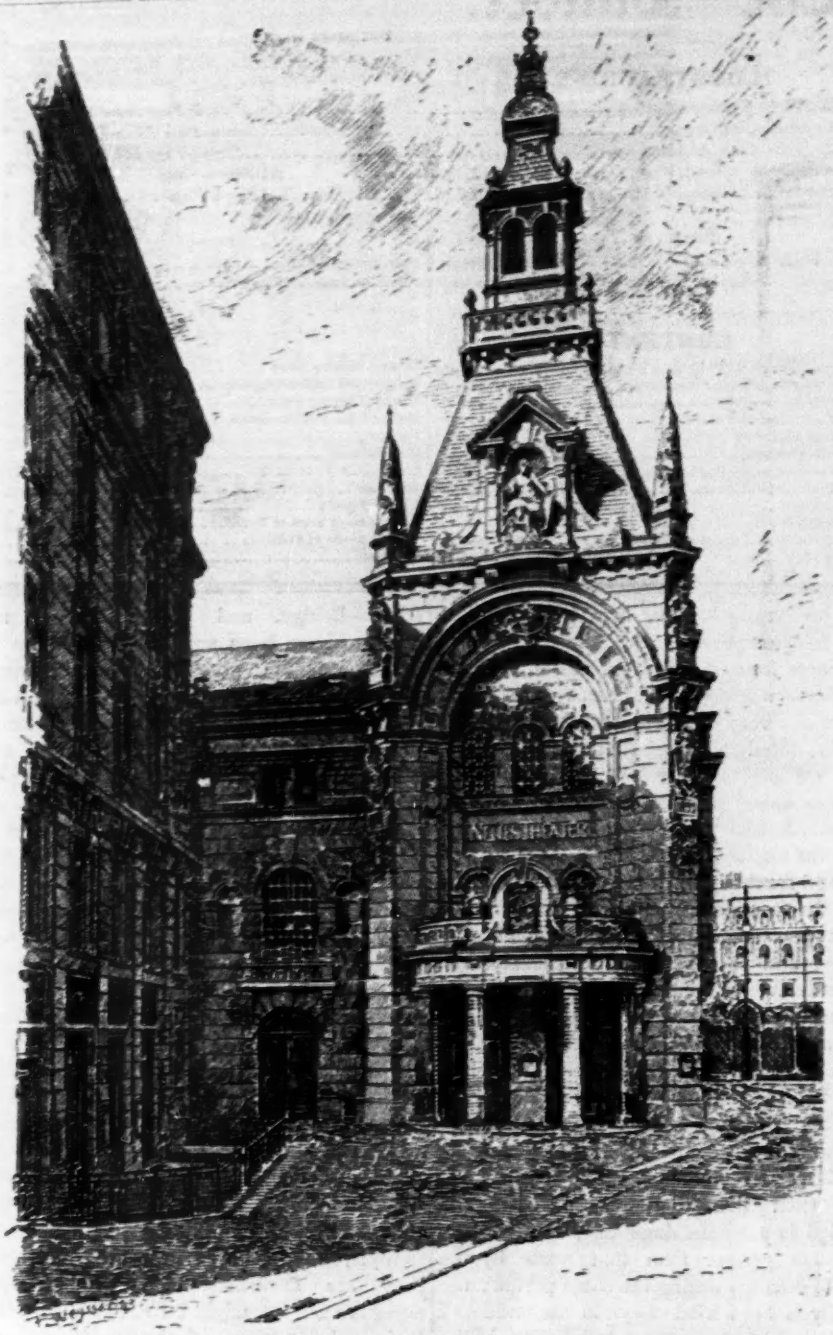


Fig. 1.—Neues Theater.

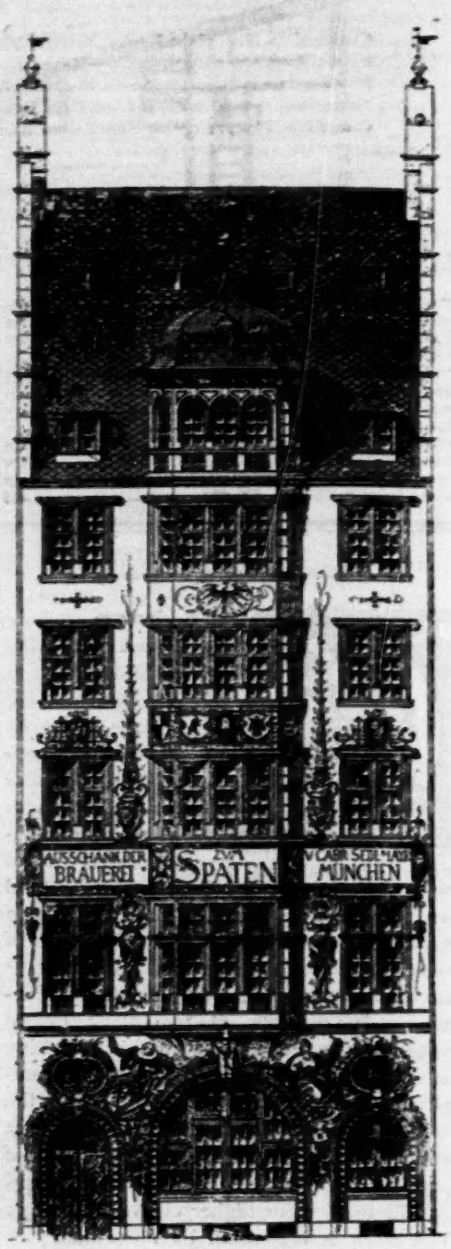


Fig. 9.—Front of Tavern ("Bier Palast").

more architectural than sculptural character the "Siegessaüle" or monument of victory on the Königsplatz, designed by Herr Strack, is good in general idea, but spoiled by the coarse detail and style of the column itself. The whole erection consists of a large square podium, with bronze bas-reliefs in panels on the four sides; above this is a circular kind of temple with an open colonnade, within which is the circular base of the column, adorned with mosaics by Salviati, which ought to have a good effect, partly glistening beneath the shadow cast on them by the roof of the circular colonnade. Above this rises the column proper, thick and stumpy in proportion and having no resemblance to an architectural column such as ordinarily forms a portion of a building, and this of course is perfectly right; but its division into three lengths by projecting mouldings, and the large flutings with some kind of symbolical ornaments inserted in them, have a coarse and clumsy effect, and the capital, in which eagles take the place of the usual foliage, is bad in outline and effect. A colossal figure of Victory finishes the whole, which is certainly an original conception, somewhat spoiled by unsatisfactory detail and also, it must be added, by the utter discrepancy in scale between the main column and the classic-looking colonnade round its base.

In the modern official and administrative buildings, all classical and mostly of a severe type, one is struck by what may be called the common-sense look of the architecture and by its severely horizontal character. The Germans at all events are not open to the gibe which the French make against us in regard to building useless towers. Except to the churches, there is in fact hardly a tower in the book. This is a loss in regard to picturesque effect, but on the other hand there is no doubt that in some of our own public buildings the money that has been laid out on towers which do not assist the main object of the building might have been more wisely expended in some other way. One must at all events admire the practical character of the public buildings illustrated in this volume. Almost the only piece of "scenery" for gratuitous effect is the treatment of the rounded angle of the Imperial Post Office buildings in the Leipziger Strasse. This is rich and effective, and something of the kind seemed to be required at that point.

The churches do not make a fascinating chapter to English eyes, nor are the illustrations for the most part drawn or executed in such a style as to give them any additional advantage. They are mostly hard and mechanical engravings, with no effect. The favourite reversion to the early German round-arched style—that style which Fergusson said was only begun, and would have led to great things if properly worked out—is very apparent; and considering how very badly the modern German architects appear in the treatment of anything like Gothic, they are wise in cultivating Romanesque forms for which they seem to have a good deal more sympathy, and which they certainly handle much better. Adler's St. Thomas-Kirche, with its circular ended transepts, circular central feature over the crossing, and its two square-lined western towers, groups well. But the chief interest to English readers in this chapter lies in the plans of the churches, which are very varied and worth study, though the method

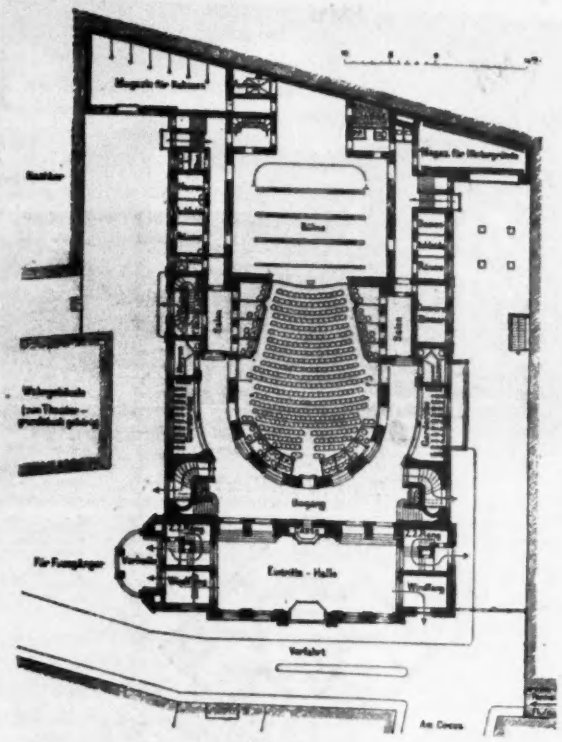


Fig. 2.—Plan of Neues Theater.

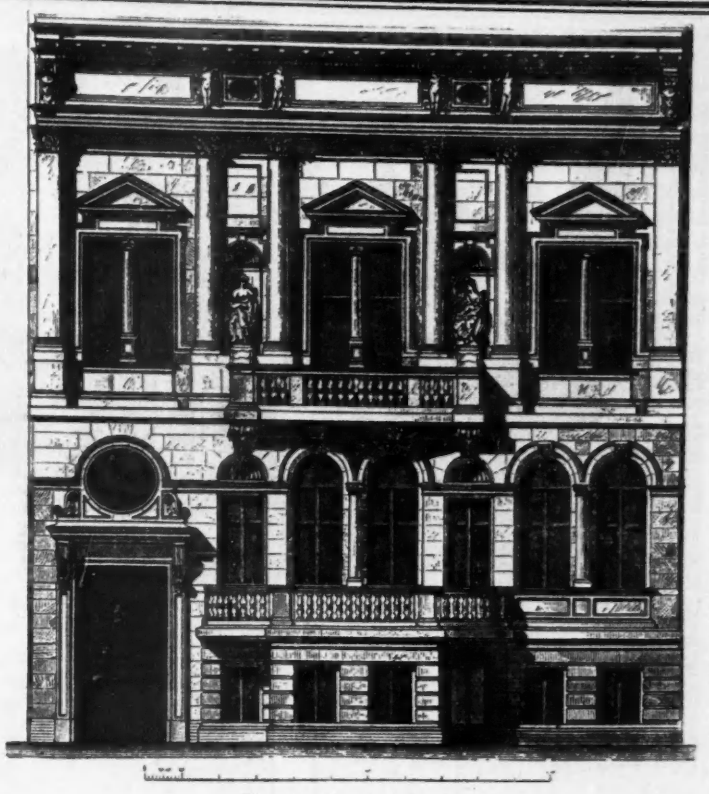


Fig. 5.—Front of House.

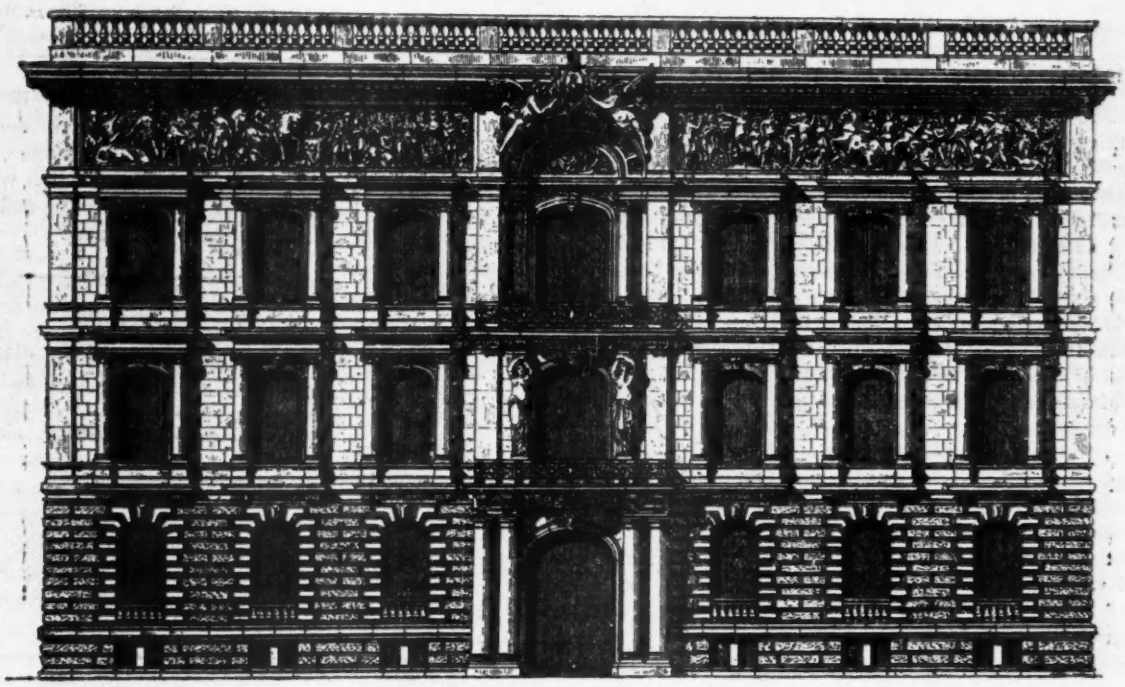


Fig. 3.—House in Leipziger Platz.

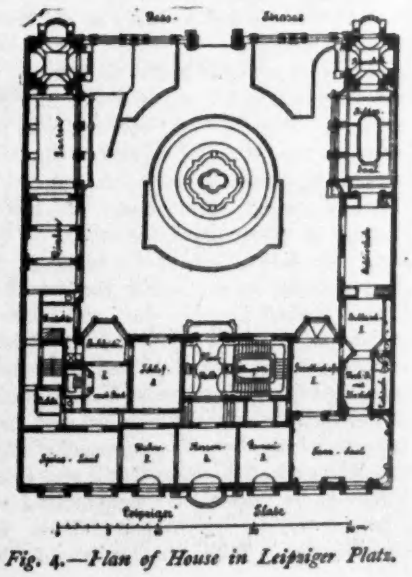
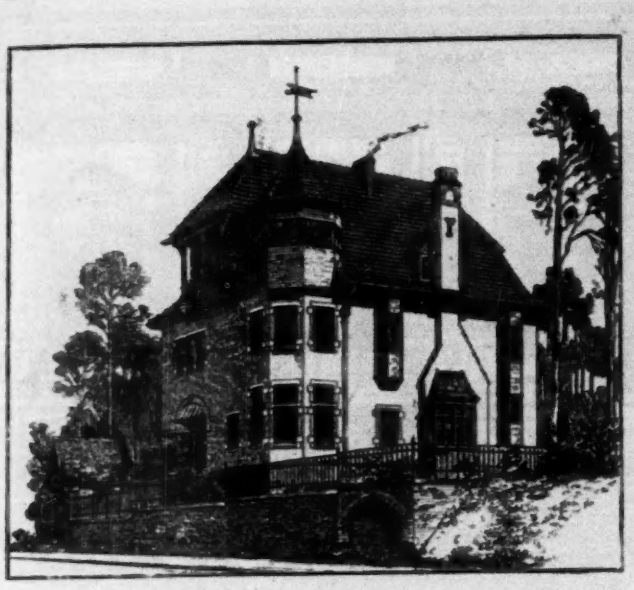


Fig. 4.—Plan of House in Leipziger Platz.

of giving them architectural expression is not always of the best. The habit, in the plans which are of wide rather than long proportions, of placing the rows of seats at various oblique meeting angles suggested by the lines of the external walls, must have an exceedingly disturbing effect on the architectural qualities of the interior, as is in fact evident in the interior perspective view given of the Emmaus-Kirche. The new cathedral in progress is of course illustrated; of this we said enough at the time when we published the plan and elevation. There is a neat little line perspective of it given, in which it looks better than in elevation, but we fear it will not captivate Europe, externally at least. The plan has fine capabilities for interior effect.

In the chapter on museums, both the Old and the New Museums remind us, in conjunction with our own British Museum, of the predilection that existed for some time all over Europe in favour of columnar architecture as the expression for a museum of antiquities, and not altogether unsuitably. The new Museum and National Gallery, with the colonnades round the ground, give us a perfect *feu de joie* of classic columns when the whole group is taken in at a glance, though the actual museum presents the contrast of a flat wall. The front of Schinkel's "Altes Museum" is nothing in fact but a colonnade, not sufficiently "stopped" by the one pilaster block at each end. Nevertheless, if the Germans were bent on being Greek, Schinkel did it for them uncommonly well; and after all a museum is a pardonable occasion for classicalities



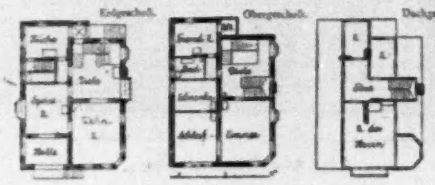


Fig. 6.—House at Grunewald.

Fig. 7.—House in Beethoven Strasse.

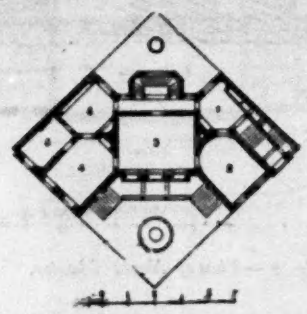


Fig. 8.—Plan of House in Beethoven Strasse.

its associations are of ancient, not of modern things. But we must pass over briefly museums, and schools and banks, merely observing in passing that the German architectural genius is rather at home in such a building as a bank, where there is always plenty of money to spend on the architecture and where a stately and sumptuous effect of a sober kind is demanded. The façade of the Reichsbank towards the Jägerstrasse, with its rusticated basement and small barred windows, its order and large windows and enriched cornice and attic above, is fine and stately in effect. It is to be presumed that the arrangements which in an English bank require large windows in the ground floor do not prevail here, and that the method of laying out the work is different. The interior, of which a view is given, is really fine.

Of German theatres we have said a good deal from time to time, but among the illustrations which we have reproduced on a rather reduced scale that of the "Neues Theater," by Herr Seeling (1891) is worth note as a rather unusual incident in theatre architecture, the addition of a kind of tower, marking the entrance for those who are on foot, and which has been treated in a decorative manner with some effect (see figs. 1, 2). It is a curious point to select to place this kind of feature; as will be seen from the plan, it is at one side of the front, and faces to the side of the building. It comes in effectively as a picture, at all events.

The chapters dealing with hotels, business buildings, and dwelling houses, are among the most interesting in the volume, the dwelling houses especially, as the plans are given in nearly all cases, and many of them, differing very much as they do from the usual English house plan, contain features which are out of the common way and are very suggestive, especially as to arrangements with a view to interior effect. We reproduce two of the more important and stately of these house fronts in the principal streets. The house (fig. 3), by Messrs. Ebe and Benda, is a good specimen of the mansion front for a street; and the deep sculptured frieze, an unusual adjunct to a dwelling house, has a rich effect in contrast with the plain rusticated grand story. The plan is given in fig. 4. Fig. 5 is a house front designed by Messrs. Ende & Boeckmann; the plan is of no particular interest, but the treatment of the front, with the niches between the coupled columns in the upper story, is elegant and effective; the large balcony on the ground floor forms what the French call a *dégagement* from the principal drawing-room or "salon."

The Germans, like the French, are far behind us for the most part in the picturesque of country houses; they are apt to overdo the picturesque and to make a house "rustic" with spikes and finials and bargeboards; but there are some exceptions among the illustrations to the volume, one of which is the small house, in the Grunewald, shown in fig. 6; and another small house which is interesting is that in the Beethoven Strasse (fig. 7); the plan (fig. 8) is original and ingenious, as also the manner in which the exterior decorative treatment is concentrated on the centre portion of the wall (which is the exterior wall of the music room), contrasting with the plain treatment of the wings. Fig. 9 is one of the beer-house fronts of Berlin, designed by Herr Seidl, showing a rather successful attempt at a playful and picturesque effect; and it must be admitted that in the way of public-house architecture the Germans seem to aim at something better than is generally seen in English towns. Among the illustrations of modern business buildings is one of the group of buildings illustrated in one of our lithographs in this issue, and described under the head of "Illustrations."

We may congratulate the Berlin Architectural Society on the production of a fine and most interesting publication, the study of which suggests the question, why have we not a similar book illustrating and describing the architecture of London?

NOTES.

The Paris Metropolitan. AFTER a long discussion the Municipal Council of Paris have voted for the narrow gauge Metropolitan railway, as previously described. The vote however is generally regarded as purely platonic, and amounts practically to shelving the matter again, as no company is likely to take up such a doubtful speculation, and the Municipality, if this scheme is carried out at all, will have to carry it out themselves.

London's Historical Buildings. THE statement made by Sir Arthur Arnold on Monday last, on the occasion of Sir Walter Besant's lecture on "London," will be welcome to those who desire to identify the buildings of London which are of historical interest. The Earl of Rosebery, who presided on the occasion, suggested that more should be done to make the streets of London living storehouses of history, instead of "mere blanks of stucco as they are." He did not believe, for instance, that it was really known where the site of the Old Whitehall Cockpit was; and as to the buildings in which some recent Governments had been formed, he did not suppose that in twenty years those buildings could be pointed out. It was true, he said, that a society existed that affixed rare and scattered medallions on the houses that it was able to identify, but though he sympathised with the society, he felt that its efforts were inadequate. With the spirit of these

remarks we heartily agree, but we may remark that it is generally supposed that the Cockpit was situated at what is now the corner of Downing-street and Whitehall; and as to identifying buildings in which some recent Governments have been formed, perhaps the matter is of little importance to any one, and never will be of much; but nothing but general satisfaction can be felt with the statement of the Chairman of the County Council that the Council has resolved to make a register of the historic buildings of London—with the idea, we hope, of subsequently affixing suitable medallions to them.

The President's Address to the Builders of Lancashire.

WE have received a copy of an address read by Mr. W. Cunliffe, of Bolton, at the recent half-yearly general meeting of the Lancashire Federation of Building Trade Employers. The paper is entitled "What ought to be the Policy of Employers of Labour in the Building Trade?" It is in the nature of a summary of various points in connexion with building contracts which are of importance at the present time. In many respects it is a suggestive address, but on the other hand it would have been more useful if it had gone somewhat further into detail. Sometimes Mr. Cunliffe states what are little better than obvious truisms. Thus, under the heading "Fair Conditions of Contract Essential," we read:—"A builder acts with indifference to his own interests, and challenges great risks and fearful consequences, when he signs a contract form which does not contain an arbitration and strike clause." We should hardly have thought it necessary to remind contractors of the risk which they run when they enter into one-sided contracts; but it must be presumed that when a man of business does so he is acting with his eyes open, and considers that it is desirable to run some risk in order to obtain a particular contract. Mr. Cunliffe naturally draws attention to the competition of Municipal Corporations. It is all very well to call this "unfair" competition, but it is a competition which is inevitable, and the consideration of contractors should be given to the best means of meeting it from a business point of view. Mr. Cunliffe states that "no Corporation can execute work as economically as a private firm of contractors." If he could prove this—and we are inclined to agree with his proposition—he would have done a public service. But what the public want is not mere statements to this effect, but proof of its truth; and we could have wished that Mr. Cunliffe had gone at length into this question. It is sufficient for an address in itself.

An Ancient Portrait of Virgil.

IN Italy great interest has been excited by the discovery of what seems to be the earliest known portrait of Virgil. An account of the discovery was laid before the Académie des Inscriptions, at Paris, by M. Gastron Boissier, and a brief report appeared in the *Observer* of December 6. Some soldiers encamped at Soussa, near Tunis, came upon a mosaic with well-preserved portraits of three personages. One of these M. Gauckler, director of antiquities for the district, reports to be a portrait of Virgil. The figure is seated, and wears an ample white toga; on his knees he holds a roll of papyrus, and on it is inscribed the familiar line:—

Musa, mihi causas memora: quo numine læso,
Quídve dolens—

This in itself goes far for the conjecture that the seated figure is Virgil. To the right is seated the Muse of History interpreting to him a manuscript; to the left is the Muse of Tragedy. A further reason for the identification is that the portraits hitherto known of Virgil (all manuscript miniatures, of which the best known is in the Vatican) all bear considerable resemblance to the new mosaic. The face in all is beardless, and the hair short. The mosaic is of the first century A.D., and hence the earliest portrait known. It at present is placed in the military reception-room at Tunis.

Royal Exchange Paintings.

WE are glad to hear that the Merchant Taylors' and Skinners' Companies have commissioned Mr. E. A. Abbey to paint the pictures that will fill the panels which those Companies have undertaken to contribute to the decoration of the Royal Exchange. When Mr. Abbey's remarkable wall paintings for the Boston Library were exhibited in London, we expressed regret that such works should be going out of the country; and it is gratifying to find that Mr. Abbey has been offered an opportunity of doing some mural painting which will remain with us. It is to be hoped also that the carrying out of this work at the Exchange will have the effect of increasing the interest in mural painting in this country, and of rousing in the proprietors or trustees of other important public buildings a spirit of emulation which will lead to the carrying out of further work of this kind.

The Monument to R. L. Stevenson.

MR. EDMUND GOSSE, in a letter in the *Times*, urges very rightly that the proposed memorial to Stevenson in Edinburgh should be of the nature of a work of art. He says: "There is a growing tendency amongst us to think that a memorial to a great man is a first-rate opportunity for grinding an educational or a philanthropic or an ecclesiastical axe"—founding an institution of some kind, &c. Mr. Gosse desires to record his feeling in favour of "an iconic piece of sculpture" as essential to the scheme. He is quite right.

The Chain Pier, Brighton.

IN our number of November 19 last, page 410, *ante*, we described the condition of this structure, pronounced to be unsafe by Mr. F. J. C. May, Borough Engineer, which finally succumbed in the gale a week ago. The pier, once a highly popular resort, was opened on November 25, 1823, having been begun in October, 1822, and constructed at a cost of 30,000*l.*, after the designs and under the superintendence of Captain Sir Samuel Brown, R.N. The deck, 13 ft. wide, 1,134 ft. long, and 14 ft. above high water, was suspended by 360 rods from iron chains, four on each side, formed of 170 links 6¼ in. in circumference, weighing 1 cwt. The chains passed over three pairs of cast-iron towers rising 25 ft. above the deck, and weighing 15 tons each, each pier having a cross-arch. These intermediate towers rested on piles, seventy to each pair. Two similar towers at the pier-head stood upon a platform spreading out laterally to an area of 80 ft. by 40 ft., and supported by 150 piles, bound together with wall-pieces and framings, and driven 10 ft. into the chalk rock. After passing over the fourth pair of towers the chains diverged at an angle of 85 deg., their ends being secured in the foundations below. At the shore end the chains are fastened on to iron plates weighing three tons, embedded with brick and stone masonry for a depth of 54 ft. in the rock of the cliff. The pier-head was steadied by 200 tons of Purbeck stone laid over the platform. Beneath were galleries and landing-stairs for the former sea-service to and from Havre and Dieppe. The cast-iron rails along the pier's either side stood upon cross-timbers that rested on the iron bars held up by the suspension rods. All the piles were iron-pointed, and studded with copper nails to resist the teredo, but of late years were seldom renewed. The pier suffered much damage from a storm on October 15, 1833, and was repaired by Captain Sir Samuel Brown. The West Pier, also considerably injured in the last storm, was constructed, at a cost of 35,000*l.*, in 1863-6 by Mr. E. Birch.

Transformer Stations.

THERE was an amusing correspondence in last week's *Times* on the dangers of transformer stations. The Rev. P. Clementi-Smith wrote to point out how a very serious explosion nearly occurred at one of the largest transformer stations in the City, as it narrowly escaped being flooded with water. Mr. Bull, the Secretary of the City of London Electric Lighting Company, naturally wrote to say that Mr. Smith's statements were exaggerated, and calculated to cause unnecessary alarm, for no explosion would have happened even if the station had been flooded. The bursting of the Hydraulic Company's main was sufficient reason for the police stopping the traffic. Mr. Smith, however, returned to the charge in Saturday's *Times*. Changing the ground of attack, he says that the constant opening and shutting of heavy trap-doors near a private house is a nuisance, and therefore that these underground stations ought not to be in public thoroughfares. He also informs the public that Mr. Voysey, the City electrical engineer, is "turning his attention to seeing that the Company make this station water-tight.' It is hardly likely that the staff of a Company which has Professors Kennedy, Fleming, and Thompson as its consulting engineers, would leave costly apparatus where it would be liable to be damaged by water. They will, no doubt, be grateful for Mr. Voysey's advice, and it is to be hoped they will not slam the trap-door any more.

St. Anne's Church, Soho.

IN Mr. G. Clinch's recently-published volume upon Soho, being an edition of the late Dr. Rimbault's MSS. and notes, it is stated that the tower of the parish church, surmounted by a copper globe, was designed by Wren. There seems to be no warrant for this ascription. The church was certainly built (1686) in Wren's lifetime; but it is not cited amongst his works in the "Parentalia," or by Wyatt Papworth in the "Dictionary of Architecture." According to the drawing by B. Cole in Maitland's "History of London," 1756, the tower, with angle-vases, was then surmounted by an ogee-shaped cupola, eight-sided, carrying an open lantern, also octagonal on plan, above which is a concave base

bearing a bulbous-shaped spire and finial. Mr. Lionel Cust, in the "Dictionary of National Biography," *s.n.*, Henry Hakewill (1771-1830) mentions "the ugly tower of St. Anne's, Soho," amongst Henry Hakewill's churches; giving as authorities for his article the "Dictionary of Architecture," Redgrave's "Dictionary of Artists," and private information. Here again we fail to find confirmation in the "Dictionary." The spire drawn by Cole was taken down in June, 1800, and the tower was rebuilt by S. P. Cockerell, in pursuance of an Act, *ad hoc*, of 1802. Malcolm in "Londinium Redivivum," 1803, mentions the then completed repair of the church, and says that the steeple had been rebuilt from the roof upwards—

"But in that singular and hitherto unknown style which now prevails to the utter exclusion and defiance of taste and proportion. A monstrous copper globe, elevated within a few feet of the summit, contains the dial plates of the clock."

So the spire was set up when Cockerell was employed upon the church, and may possibly be his design.

St. Mildred's, Bread-street.

LABOURERS are employed in digging up for removal the coffins and human remains from beneath the floor (see the *Builder* of October 3 last, p. 277, *ante*.) of St. Mildred's Church, which will be re-interred in the City of London Burial Ground at Ilford. Messrs. Dove are, we are informed, the contractors for the work, under the supervision of Dr. Sedgwick Saunders, Medical Officer of Health. The church was built by Wren in 1677-83, at a cost of 3,705*l*. Oblong on plan, and having its tower at the south-east angle, it is remarkable for the design and construction of its roof (built by E. Strong, senior), of which some of the tie-beams are raised about halfway up from the feet of the principal rafters in order to allow of the swell of the cupola. The carving of the pulpit, with sound-board, and altar-piece, is very beautiful, and is ascribed to either Gibbons or one of his pupils. The former church is supposed to have been rebuilt, *circa* 1300, by the Lord Trenchaunt, of St. Albans; a later benefactor was Sir John Schadworth, elected Lord Mayor in 1401, who gave a parsonage-house, a vestry, and a churchyard. The brick tower, 18 ft. square at base, carries a lead-covered spire, rising 140 ft., which consists of a concave pyramidal-shaped roof above the blocking-course of the tower, supporting a lantern with large openings, from which ascends a slender spire capped by a ball and vane. Since the Great Fire the parish has been united with St. Margaret Moyses, of which the church stood in Friday-street.

A Paris Exhibition.

THE "Société Internationale de Peinture et Sculpture" opened its fourteenth exhibition last Sunday at the Georges Petit Gallery. According to previous custom, the works of one of the deceased members figured in the place of honour. Last year it was the "Forge" and the portrait of Sarah Bernhardt by Bastien Lepage—this year there are two fine portraits by Paul Baudry, one of them a likeness of Edmond About. There are some very good contributions from foreigners—M. Thaulow, Mr. Harrison, Mr. Alexander W. Gay, Mr. Brangwyn, and others. Among the French works are some fine pastels by M. Pierre Carrier-Belleuse, and an interior of St. Mark's by M. Bompard. In sculpture there are some interesting small works by M. Deloye, in the style of the eighteenth century. The goldsmith's work by M. Vernier, and the wax figurines by M. Vernhes, are also well worth attention.

Mr. Sutton Palmer's Drawings.

THE collection of water-colour drawings by Mr. Sutton Palmer, at the Society of Fine Arts, contains views of many beautiful and romantic landscapes, shown in drawings which are all carefully and conscientiously wrought out; though as a whole they give the impression of delicacy and finish rather than of original power in seizing and conveying the essential character of a scene. On this ground we prefer the one entitled "Kilchurn Castle, Loch Awe" (8) to any other in the room; it is less elaborate both in subject and execution than others, but has more breadth and power of manner. For a similar reason it may be said that some of the smaller drawings which are placed below the line as of less importance are really among the most admirable, for the freedom of style and fresher effect of light and air; for instance "A Bairn's Paradise" (20) and "Near Beauly, Hampshire" (40). "Wisley Common" (48), an excellent work, and "A Surrey Common" (54) may be classed with these. Among the more highly-worked drawings that of "Glen Nevis" (14) is one of the finest, and has the merit moreover of giving a very accurate impression of this grand scene, which, as is remarked in the preface to the catalogue, has been very little painted. Others that should be specially noticed are "A Highland Bothy" (1), "Near Brig o' Turk" (4) "Evening Mists, Glen Falloch" (18) and "From Mowbray Point, Yorkshire" (53), representing one of the richest scenes of natural beauty in England.

THE ARCHITECTURAL ASSOCIATION:

STREET ARCHITECTURE.

THE fourth ordinary meeting of this Association was held on the 4th inst., in the Meeting-room of the Royal Institute of British Architects, Mr. Beresford Pite (President) in the chair.

The Chairman said that before proceeding to ask Mr. Statham to read his paper on "Street Architecture," there was a matter of an unusually pleasing business to be got through. He was old enough in the history of the Association to remember with what enthusiasm the work of the Entertainment Committee used to be carried out by the Secretary, an old friend of his, who then went by the name of Mr. H. D. Appleton. A little later he remembered taking part in the Committee work of the Association, when the Honorary Secretaryship fell into the same hands, and, with many others, he sat with a great deal of pleasure under the presidency of the same old friend. Since then Mr. Searles-Wood had taken upon himself the mantle of Mr. H. D. Appleton, and had continued on behalf of the Association a most self-denying and arduous duty as Secretary of the Committee which arranged and carried out the Annual Excursions. Of late Mr. Searles-Wood had been associated in the work with Mr. Talbot Brown, whose very serious illness prevented his presence that evening. The life and soul of the excursions had been their genial and warm-hearted friend, Mr. Searles-Wood, and, on his retiring from the office of Honorary Secretary to the Committee, his pleasing duty that evening was, on behalf of those who had taken part in the excursions, to present him with some token of their appreciation of the interest and kindness he had shown in connexion with these annual outings.

The Chairman then presented Mr. Searles-Wood with two handsome silver candelabra, amidst the applause of the members.

Mr. Searles-Wood returned grateful thanks to the subscribers for their handsome gift. He had always considered the Association work sufficiently interesting of itself to be its own reward, and it had been the means of bringing him into contact with men whose friendship he valued most deeply. He only hoped that the work he had done had given as much satisfaction to them, as it had given pleasure to himself; and he had never required any recognition of what he had done because the work was of such interest. He considered that the value of these excursions had hardly ever been fully appreciated by a great number of the younger members of the Association, and he hoped this might be the means of drawing attention to them. Their value was more than the mere holiday visits to old buildings; they were the means of building up most valued friendships, and the interchange of ideas during the week was of immense value to them all.

Mr. E. W. Mountford stated that he had received a great number of letters and telegrams from members all over Great Britain and Ireland, who would have liked to be present that evening, but who from various unavoidable causes were prevented. These letters all expressed appreciation and esteem for Mr. Searles-Wood. He might be allowed to say, as one who had attended the excursions almost uninterruptedly for about fifteen years, how much they owed Mr. Searles-Wood for the great labour he had undertaken, not only in writing, but in visiting the places they had to visit, and he was sure that they would all agree that Mr. Searles-Wood deserved well of the Association.

Mr. H. H. Statham then read a paper on "Street Architecture." Street architecture, he said, in the proper and limited meaning of the word, is the result of the necessity of planting buildings as closely as possible together in towns, to save space and in consequence of the value of land, coupled with the necessity of having definite and continuous lines of communication between the buildings. Street architecture consists therefore of buildings which architecturally have only a front and back, and no sides (except in the favoured instances of the buildings at the corners of the streets), and the fronts of which form a continuous series of buildings in different occupations and for different purposes, but structurally united into one long mass. This is the essential characteristic of street architecture, and this is what makes it a special architectural problem. In towns which have grown up where there was plenty of space and where land was of little value, what is called a street, as in some of the Brazilian and Mexican towns, as well as in some of our country villages, is only a series of houses built in a row but each with ground all round it; but the problem of street architecture does not touch us in this case.

In the ancient walled cities a crowded street architecture and very narrow streets were forced on the inhabitants by the necessity of providing for their increasing numbers within the limits of the walls, a house outside the walls being liable any day to be looted by marauders. In modern unwalled cities there is more elasticity, in regard at all events to width of roadway; we are not belted in with a fortification; we can extend a new street on to unbuilt land, on giving proper notice to the District Surveyor, and the marauders attack us from the centre rather than from without. Yet there is as strong a desire to get into a modern city, by peaceful means, as there was to get into the old walled cities by assault; not, indeed, for the same purpose, to cut the throats of the inhabitants, but to push one's business; and between this and the natural rate of increase of population within the town there is always that demand for new dwellings which induces the building owner to place his houses close together in order to profitably utilise every foot of ground, besides effecting the economy of substituting party-walls for external walls.

Hence this phenomenon, as has been said, of rows of buildings which consist only of fronts and backs, and of which the fronts constitute what is called "street architecture." A good deal might be said as to the backs of the houses also, though they do not come strictly into our subject; they are not necessarily marshalled along such a rigidly defined building line as the fronts, and they have a rather more private and divided character given to them, in most cases, by the division walls of gardens or yards abutting on them. One thing may be said however, before we quit the subject; namely, that one of the greatest mistakes commonly made in regard to street houses is the treatment of them as if the street front alone were worth consideration, while the backs may be as plain and ugly as you please. More particularly is this a mistake when there is anything that can be digni-

fied by the name of a garden in the rear of the house, for then the obstinate refusal of the building to lend itself to any decorative scheme in combination with the garden goes far to waste the opportunity. In building street houses which have any decent amount of land behind them, let people think of the back of the house as well as the front, and not denude it in order to concentrate on the front any degree of decorative treatment which can be afforded. One other remark before we go round to our professed subject, the street front; there is room for a very characteristic variety in the style of treatment of the front and back. The back of the house, as we have said, has more the look of separation and privacy than can be possible in the front, and therefore will admit of a more playful and individual treatment; it is less called upon to conform to any general style or character pervading the whole row of houses; it is more the tenant's private piece of house wall, the background to his garden, and may reasonably be treated with more freedom from constraint than the front.

So much for the back of the house, which we may now leave, and come to the street front. In regard to the series of houses making up a street there are certain general questions to be considered before we come to particulars; and the most important question of all is the much vexed one—should a series of buildings of one class be combined into one general design, or each be free to receive its own separate treatment? Of course, where a building of a special class is inserted into a row of buildings of another class, there can be no doubt so far. If a Bank front occurs amid a row of dwelling-houses, or of ordinary shops, we expect to know which is the Bank from its special appearance. But in the case of a row of houses of about the same size and rental, are they to be treated each in its own way, or to be combined into what is called a "terrace," in which the separate houses are subordinated to a uniform general design? Much has been said on both sides; and, generally speaking, I think the terrace idea is rather scorned at present; but it is a question of the character and plan of the site. There is a delicate refinement in Greek ornament, which ordains that the painted or carved ornament on the surface of a moulding should take lines somewhat similar to and in keeping with that of the sectional profile of the moulding. Apply the same kind of principle to squares and streets. I say that in a formally laid out square the design of the houses should be formal and grouped. A geometrically laid out square, with its lines true and parallel, whether it be a strict square or an oblong, is an artificial and formal creation, and requires, to give it its full effect, artificial and formal buildings. If you were going to have irregular houses I see no use in planning the square geometrically. When you come on to such an open space as Nottingham Market-place, for instance, that long and effective *place* wider at one end than the other, there you feel that the irregular and picturesque element dominates the site, and picturesque and irregular houses are quite in keeping, and what one might expect to find there. But in a large formally laid out square stateliness is the prevailing element, and should be carried out in the buildings surrounding it; otherwise why take the trouble to lay it out formally at all? The mere grouping of the blocks of houses may be an element of architectural effect, when there is little else to give it. The architecture of Belgrave-square is not remarkable in itself; and yet there is always a certain fine and stately effect noticeable there from the manner in which the corner houses are placed separate and at an angle of 45 deg. with the square. With a finer and less commonplace style of architecture this manner of laying out a square would be exceedingly stately and effective.

The same principle applies to a certain extent to the architecture of a street. Where a street is a wide one laid out perfectly straight, and especially if it leads up to any important building as an architectural termination to the vista, there is a good deal to be said in favour of designing it as one whole, not necessarily in a mere repetition of houses of the same design, which is always dull, but in a symmetrical arrangement of blocks of contrasting design. It must be remembered that we can always give a certain individuality to the houses in detail, by varied treatment of the entrances, &c. [This was illustrated by reference to Mr. Stevenson's elevation of a terrace of houses in Buckingham Palace-road, in which the details of gables and doorways are varied without interfering with the combination of the whole into one general design.] This method of giving variety to houses was quite understood by those who built the otherwise dull brick avenues of the Harley-street and Wimpole-street type. The details of the entrance doors in such streets, where the old doorways and their framework have been allowed to remain, are very agreeably and artistically varied. In the present day the street doors in a terrace are generally mere repetitions, as if they were cast in a mould; but this degree of slavish repetition is quite unnecessary, even where a generally symmetrical treatment is aimed at.

What applies to geometrically planned squares also applies I think to geometrically laid out curves in streets. The architecture of Regents-quadrant is very poor in itself, but as the street was laid out in a geometrical curve, the symmetrical treatment of the buildings which line it was right in itself, if the style and material had only been better. The sweep of the curve against the sky, which has a fine effect even as it is, is much better seen and defined by a continuous horizontal line and a symmetrical treatment of the buildings than it would have been if the sky line had been formed by irregular gables of varying height.

Regent-street, when built, was regarded as a piece of architectural design complete in itself, and it is a curious evidence of the importance which was then attached to this effort in street design, that there exist, in the Crace collection, two complete drawings to scale of the two sides of the street, on long sheets of paper giving successive segments of the design. We laugh at this now, but we must not be too sure that a future generation will not pick holes in our present methods of street building, though perhaps not with such good reason.

When we come to what may be called ordinary streets, which are not in a position in which a grandiose effect is specially called for, there I think variety of treatment, without any fixed or general design, is both more interesting and more expressive of the actual facts of the case, more especially in a street of shops. The call for variety, and the excuse for it, are indeed greater in the case of shops than of dwelling houses. For social reasons, dwelling houses in the same street, or at all events in the same row, are generally designed for the same class of inhabitants. A man who occupies a 200*l.* a year house does not want to have a fifty-pounder next door to him; there is an eternal fitness of things in these matters. And the houses being all intended for the same class of persons there is necessarily a certain similarity in their general size and appearance; one, at all events, is not to appear much more attractive or ornate than its next door neighbour. But such houses may be varied in design very considerably, and with very good effect, without appearing to quarrel with each other. Of this kind of treatment we have fortunately had a good many examples in some of the new residential neighbourhoods in the west and south-west districts of London, in various streets of red-brick houses which, without always presenting the highest architectural interest individually, are nevertheless very pleasing and satisfactory in effect when viewed *en masse*, and not without a good deal of interest in detail; and perhaps there is no branch of architecture in which we may so decidedly compliment ourselves on an improvement in recent years as in the better class of London street houses. When we compare Grosvenor-place and Cromwell-road with some more recent streets not far from them, the difference is indeed immense and very gratifying.

In streets of shops and business buildings there is, on the other hand, a decided call for variety; especially in shops; for these are buildings each separate one of which is for the carrying on of a special business in a special material or production, so that there is every suggestion, in the very uses of the tenements, for varied and individual treatment. In a business street we may have a long row of shops each devoted to a different trade, among which will be interspersed in one place a bank, in another an insurance office, in another a block of offices for professional men, and so on. It is quite impossible to regard such a street as suitably treated by any arrangement of groups of tenements in symmetrical blocks; variety is absolutely essential, or the whole thing becomes a blank and meaningless sham. The result is a number of buildings shouldered closely together, each of which (except at the street corners) presents one face only for architectural treatment, and each claims a distinct and individual treatment—and here comes in the difficulty: first, what can we do in the way of architectural effect and expression with one front only—sometimes a narrow strip of building; secondly, how can we do this without clashing with the architectural treatment of the next door tenement?

In regard to this latter point street architecture has been allowed rather too much to take care of itself. We are accustomed to design our own street block, marked off on the drawing paper as a space of so much width, without much regard to what is, or is to be, on each side of it. Hence we see cornices and string-courses run across the front, which have either to be cut off short when they come to the vertical boundary-line of the property, or returned upon themselves. Either arrangement looks awkward. The result often is that a street of buildings of various character looks too much as if each vertical strip of front were a portion of a larger design, out of which just so much had been cut as there was room to fit into the space available for it. It seems possible to obviate this. I would suggest that in any street building where it is impossible for the architect to have any control over what comes on each side of it, the real design of the front should be kept somewhat *within* the bounding lines of the property, so as to leave at each side a little width of blank wall as a neutral ground, as one may call it, where the walls of the two contiguous fronts may meet as flat planes, without any projecting architectural details to clash with each other. Occasionally we see instances in which this point has evidently been kept in view. We see others occasionally in which a complete design has been made which is effective enough in itself, but in which we at once see that no two such designs could be placed side by side without each interfering with the effect of the other. I shall be able to illustrate this by one or two examples just now. But the general principle to be observed is, to treat your own design freely and in your own way, but without extending it to the limit of the site, where it would be liable to interfere with, or be interfered with by, the adjoining building.

The question of the method of terminating the upper portion of a street building, depending more or less on the method of roofing, is one of the most important in regard to the effect of a street; and here we are concerned more with the general effect of the whole street than with the particular building. Whether *one* building is to be terminated with a gable facing the street is not of so much consequence as whether *all* are to be so treated. What is called "sky line" has become a kind of shibboleth. We admire exceedingly, and justly as far as appearance goes, the effect of the varying outlines of lofty and often highly enriched gables in old Dutch and German streets. But the effect is purchased at a heavy, I should almost say a prohibitive practical cost. A series of gables means increased practical difficulty in keeping roofs water-tight and getting the water off them, and it means moreover either a large amount of wasted and empty space in the roofs—and empty spaces which you cannot habitually get at or inspect are apt to be insanitary spaces—or it means small and uncomfortable rooms in the attics, with low side walls and partially sloping ceilings. The gabled street is picturesque, but unpractical; and, sad as it is to say so, I am afraid that if we want to have the best street building for practical purposes we must be content to let it go, at least as a general ordinance. A gable here and there if you like, to break the straight line; and an architect may be guided in this partly by the consideration of the general aspect and construction of the street in which he has to build; if it mostly consists of low-pitched roofs and straight lines he may say, "Well, there is no harm in my running up my one gable for a little variety." Even here however he may be met by the argument that he is setting a bad example; "it is all very well for you, but suppose we all did it." And there is another point which has hardly been taken seriously into consideration yet, and which I am almost afraid to mention, it seems so much at variance with our usual ideas of the street picturesque; but I think it is likely that, with our modern habits of fireproof building and our new facilities with iron and concrete, the idea of the usefulness and convenience of flat roofs to town houses will more and more press itself on the mind of the reflecting architect and (so far as such a thing exists) the reflecting public. Only think of the usefulness and pleasurableness, in a crowded city, of impervious flat roofs; the opportunities of air and prospect you may get from them; the chances of having little gardens or conservatories on them, which you may have absolutely no room for elsewhere; the attic rooms of good height with flat ceilings under them. I look upon it that the flat roof has a future in city architecture. Then, you say, there goes all our sky line. Well, the buildings

need not therefore all be the same height; you will break the sky line by square masses instead of pointed masses, and one might get to like it; there is much in habit. And there is one compensation in the rich effect which might be got by decorative balustrades, which in this case would be things of real practical use. The balustrade as generally used now is an architectural sham or survival to hide a sloping roof which consequently no one ever goes on, except the man to repair a broken slate. With the flat roof it would be a genuine feature with a useful purpose, justifying its existence.

In regard to the methods of giving expression and interest to our strip of street front there may be said to be two distinct classes of treatment, the modelled surface and the flat treatment, the latter depending for effect upon material, colour (more or less), and spacing of the openings; the former on modelled architectural features. (Mr. Lethaby says there are no "architectural features"; but here, in St. Paul's phrase, "I speak as a fool" and use the ordinary phraseology.) It may be questioned whether, for a city, especially a smoky city, we do not run into modelled surfaces a great deal too much. Apart from this consideration, the width of street has something to do with the matter. In a narrow street, at all events, projections are rather to be avoided, and especially widely projecting cornices; though in a wide street a bold cornice is a very fine source of effect, and the London Building Act is quite inadequate in its allowances for this. The question of wide *versus* narrow street has another bearing on the matter. In a narrow street the upper portion of the front can never be well seen; what is most prominently under our notice is the ground story, and in such a case it is here that the decorative treatment should be, not up above, where it is never seen. We sometimes see street buildings in narrow streets which have evidently been designed to look well on the drawing-board, where an increasing richness towards the upper portion of the design seems natural, and has the best effect; but in its place in the street it is all lost. There is no reason whatever, in a building for a narrow street, why the decorative treatment should not be placed where it will be seen, in the ground story, and the rest be left plain. Often a street front is far too much covered with ornament (especially in these terra-cotta days), much of which loses effect from its very profusion. A greater reticence over the main portion of the building would allow of the expenditure for a higher class of work in the decorative portion.

In what we have called the modelled front the effect is got by the treatment of the wall spaces, and the windows are merely openings where the wall treatment stops; in the flat order of front the windows, in their shape, size, and spacing, are themselves the prominent features, and the chief agents in imparting architectural expression. But in either case the great source of expression is concentration of features in accordance with the actual requirements of the building. A house, a shop, a group of offices, have in general each their own requirement in regard to the proportions and positions of windows. We will notice this in some examples just now.

It has been said that we have lost a great deal in losing the characteristic signs and symbols of shops, indicating the various trades to which they are devoted; but it may be rather doubted whether an attempt to revive this would not appear a little too much as a conscious æsthetic "pose." It belonged to or originated in a period when many people in the lower orders could not read. We are accustomed to state a thing plainly in writing now, and I do not think people are likely to give up that way for the symbolical one. What would perhaps be more to the purpose would be to persuade tradespeople to pay more attention to the tasteful and effective writing of their names, and give up the hideous practice of having monster letters stuck up all over their building, to the destruction of the scale of a street and of any architectural character which the building may possess.

The question of style does not, of course affect street architecture specially, more than any other architecture; whatever ideas we entertain about what are called architectural features and the application of details from styles of the past ages, are applicable as much or as little to street architecture as to any other class of buildings. There is however one question as to the method of grouping the windows, which is of some importance in regard to the expression of a street building; and that is the question whether we should treat the main piers as vertical features to be emphasised, either as pilasters or as arch piers, and group the windows between them, or whether we should treat the wall as a wall all in the same plane pierced with windows where required. The former is the strongest construction (unless the general thickness of the walls is very considerable); but its æsthetic fitness is a very different matter. The separate treatment of the pier emphasises the vertical lines of the front, and whether this is desirable or not depends entirely on the proportions of the front, the character which it is desired to give to it, and the nature of the lines of the adjoining buildings; where the latter are mainly horizontal in their tendency, an emphasis of the vertical line in the new structure may be a powerful means of gaining effect. But the question depends also on the purpose for which the building is intended. The separate treatment and emphasis of the vertical piers, with the windows only in the curtain wall between them, tends on the whole to give a "business" look, a warehouse look, to the front; it is at variance with the impression of domestic character, and there can hardly be any doubt that such a treatment is unsuitable to a street dwelling-house. There are other classes of buildings to which it is very suitable; there are some among our illustrations this evening which will exemplify this.

The question of material is partly artistic, partly practical. We live under Building Acts now, and the richly carved and picturesque timber fronts which we admire in the old quarters of some cities are tabooed for us by law. I do not think we ought to complain of this; timber is too dangerous a material in cities, when used in large masses. It is quite true that an oak story post within a brick building will hold up a floor longer, in the midst of fire, than a cast-iron column; but make your whole front of oak and it will be another matter; it is then a mass of fuel. Brick is our favourite material at present. It has much to recommend it; warmth of colour, richness of texture, and it resists a town atmosphere well; but it is a great soot and dirt collector, and the new brick streets will have a very different aspect in fifty years' time. People have been preaching about glazed and washable materials, but the remedy would perhaps be worse than the disease in some respects, even if the cost be not prohibitive. Imagine the look of a street all polish and glaze from end to end. Terra-cotta has been used with great effect in a good many recent street buildings, and it is the one material perhaps which enables us to emulate to some extent the richly decorated timber fronts of old work, though it is rather a temptation to over ornamentation and want of reticence; people who take to it seem to be run away with by it and unable to hold it in. I confess that I still feel a weak and perhaps over-conservative leaning towards stone, as after all the most dignified of all materials for the best class of buildings; only for towns it must be carefully selected and not carved too much. The usefulness of cement, properly treated, seems to be overlooked. The all-over cement house, pretending to be stone, and often hiding bad brickwork, was an abomination. But the partial employment of cement on a brick building, as a means of getting contrast of tone, may be of very good effect. I wonder this has not been more tried.

The employment of strongly coloured materials in glazed surfaces has been advocated as a means of giving a new beauty of colour to our streets. But who is to harmonise the colourists? Difference of colour in natural materials, even if inharmonious at first, soon tones down by weather. But in a whole street built in highly coloured glazed materials, ever washable and ever new, what discords of colour we should have. There would have to be colour by-laws, and a colour test of vision applied to the District Surveyors who were to enforce them. The application of colour in small panels or points is more feasible; for instance, there has been an occasional experiment made lately in designing the names of shops and other trade places in decorative mosaic work. That is very good, and we should be glad to see more of it.

High-class decorative design, in the way of symbolical figure subjects, accompanied perhaps by decorative accessories, is perhaps rather an addition to street architecture than a part of it. There have been a few attempts at it, but they have not been followed up, partly no doubt on account of the cost of obtaining good artistic design of this class. If this kind of mural picture is really well done, it would add very much to the interest of our streets, for a few of us, but not for the many; it is a thing one does for one's own pleasure; the man in the street does not really care about it. Of the materials for such decorative work there is nothing like mosaic; it blends with architecture naturally, it is a kind of pictorial architecture in itself. Tiles have to my mind too much glitter; and sgraffito is hardly suitable to a town atmosphere, and can only give us two flat tints; even the effort to produce a third tint raises the face of the work too much from the ground.

Sculpture is the form of ideal decoration which most of all blends with architecture and becomes almost a part of it, and if there were less money expended in carving imitation Gothic and Classic caps on our fronts, there would be more to be spent in modelling a figure or two which would give a much higher interest to the building.

[The remainder of the paper consisted in comments on various illustrations and the different points in connexion with the subject which were suggested by them. The illustrations included six sheets of lithographs circulated among the audience; a large number of engravings and lithographs on screens, classified under various headings, and some drawings kindly lent by Mr. J. J. Stevenson, Mr. Ernest George, Mr. Needham Wilson, Mr. Hargreaves Raffles, and Mr. Pywell. After this a considerable number of lantern-slides of street views in different parts of the world were successively exhibited on the screen, Mr. Wonnacott kindly undertaking the management of the lantern.]

The Chairman, in inviting discussion, said that the members were very much indebted to Mr. Statham for the great pains and labour he had been put to in illustrating his exceedingly valuable remarks and suggestive criticisms. This was one of those vast subjects which a required comprehensive mind to analyse them, or, indeed, to make them at all interesting. A large subject—if Mr. Statham would permit him to say so—required a large mind, and he ventured to think that none of them would have any doubt as to having received interesting lessons from Mr. Statham's generalities. An additional value would attach to these illustrations in their having been brought to exemplify, not the historical or genealogical development of architecture, but as illustrations of classes of buildings which were always with them—the street architecture of cites. It did not matter whether they were ancient or modern, Queen Anne or Classic, tumble-down unthought of erections, or carefully considered works of modern architecture, this point of view had enabled them to get a broader sense of the subject of their daily work. He would venture to suggest that the subject had a value in teaching them an important lesson, viz., to look for the idea in a building—not to ask, "Is this building in accordance with accepted custom? Is it of any classified or indexed style?" But rather, "What is the idea underlying it? Does it proceed from a motive of verticality or horizontality? Is it that of ornament widely distributed or concentrated? Is it architecture as architecture, or sculpture as sculpture, or is it a conjunction of any two arts?" He would like much to emphasise the very great value and importance of the use of recessing in street architecture. He did not mean elaborate struggling grouping upon corbels, and the breaking of bay-windows, arches, and projections; but he meant the proper use and scientific study of the effect of shadow upon the street fronts. It should be remembered also that, though they might be prohibited by circumstance from using projections, they were not prohibited as a rule from recessing. With street architecture, in the greater number of instances, they would find opportunities for effect in recessing, which would be very much more valuable than projections. For instance, a narrow street would lend itself to recessing more easily than to projecting. He would advise the student to study the scientific projection of shadows, at least to a moderate extent. There were numbers of vastly interesting points in the lecture, which he would not venture to touch upon, but he would like to refer to one or two points which might raise discussion. He could not help feeling very thankful when the time for repainting Regent-street came. However bad the brickwork might be behind the stucco, and however uninteresting some of the architecture might be, that street became a new one after its annual coat of paint. It might not have the dignity of Portland stone, but the architecture was there in its pristine condition every time the paint-brush was put over it. He could not help being somewhat more than amused at the remark of a supposed American in the columns of *Punch* to the effect that St. Paul's would be all the bette for a coat of paint. Mr. Statham, if he might venture to say so, was a very dangerous man to criticise

for if he had a rapier in one hand, he might have a club in the other. At the same time, he would like to cross swords with the lecturer as to the value of small panes in street architecture. Small panes, as a decorative element in the hands of the architect, had a value of their own. They might play with them in the hall and bay-windows of quaint houses, but he could not help thinking that, when the architect had descended from the use of pilaster and column, of stone and marble, to rely upon putty and lead glazing, he had come to a low source for effect. If the buildings failed because the window openings looked like gaping holes in the wall, it was their own fault, and not the fault of those who wished to have large panes. The warehouse, if properly treated with girder stanchions and plate-glass fillings, was the building of the age, with which, unfortunately, architects had not associated themselves.

Mr. S. Flint Clarkson, in proposing a vote of thanks to Mr. Statham, said that he had derived much profit from that gentleman's admirable lecture, which was full of careful thought and novel suggestion. It was somewhat difficult for a speaker, who was only allowed three minutes, to tackle such a vast subject, and he would simply refer to one or two points. Mr. Statham had mentioned the fact that it was the narrow frontage which was the difficulty with regard to street architecture, and he had made various suggestions, when talking of terrace treatment, with reference to the value of grouping buildings together in order to avoid the emphasising of the narrow frontage. Referring to illustration No. 39, there was a feature in the building which was novel, viz., that there were four frontages with only two gables. The architect in this instance had succeeded in doing what could not have been done if there had been four gables, viz., in giving some breadth to the composition. The manner in which this was done, in order to comply with the regulations for the prevention of the spread of fire, was that the return roofs for 18 in. or more at the top were constructed entirely of fire-resisting material; in the party-wall, though stone of hard York were put, concrete was placed on the stones and the tiles bedded on the concrete, so that the passage of fire was prevented. The President had referred to the keeping of buildings fresh, but it was not absolutely necessary that a building should be painted in order to freshen it up. Child's Bank was a capital example of the special use of the fire-engine, which was employed to clean it at stated periods, thus preventing it ever getting into a thoroughly grimy condition. That led him to remark, that this bank was an example of what Mr. Gibson particularly aimed at in the treatment of his carefully-finished fronts, viz., that they should have a legitimate ending. Mr. Statham had called attention to it several times, and this was a good example of the way in which the architecture should finish within the front. There was no attempt to run cornices to the extreme end, but there was a dead piece of flat walling which had no features, and which allowed everything to be finished in a perfect manner. The same thing applied to other buildings treated by Mr. Gibson in London. Mr. Gibson had also a large experience in the treatment of banks, and he had come to the conclusion that it was necessary such a building should have a large Order. If two stories could be grouped together, and an Order of fair size run through, the consequence was that they drew the bank somewhat away from the dwelling house. In his later years Mr. Gibson did this, and a good example of it could be seen in Piccadilly.

Mr. M. B. Adams seconded the vote of thanks to Mr. Statham. He considered that the gauntlets the President had thrown down would take a great deal of time to deal with, but he very much questioned whether Mr. Pite was altogether correct in his condemnation of the smaller panes of glass. Unquestionably, if one had a monumental front, and wished to go to some expense in the matter of sculpture, plate-glass seemed to be in keeping with the scheme; but if it was a utilitarian front, and was not overdone, there was a degree of skill and of continuity carried over the openings in the front by means of panes which it was rather difficult to surpass. Mr. Shaw, in the New Zealand Chambers, showed a specimen of dignified treatment in the lower bay-windows—the merest cross bar treatment, which looked satisfactory when it was done, and, he believed, was satisfactory still. The examples of buildings shown that night represented a very varied character. It was extremely difficult to classify them, and there appeared to be no representative examples from America, where there was so many high, tower-like buildings. Here in London, the Building Act would not allow them to go so high, but, at the same time, many of our buildings were rendered higher than they need be by sky lines and other means of advertising, which not infrequently destroyed the refined details the architects had been at pains to give. If some limit could be brought to bear in the manner in which buildings were spoiled in that way it would be of great advantage. He thought it would be a fit thing if he was allowed to second this vote of thanks to Mr. Statham, which he did most sincerely.

Mr. G. H. Fellowes Prynne supported the vote of thanks, and said the members always felt that a paper by Mr. Statham must be full of interest. Those he had given on "Modern Architecture" last session would be remembered with pleasure, and they had not forgotten his excellent paper on "Bridges." They could not help considering that one of their greatest failures had been street architecture, when it was compared with the streets of Paris and Vienna. One of the special failures, too, appeared to be in regard to angle buildings. It seemed a great pity, for instance, that the excellent angle of the Westminster Palace Hotel had been thrown away, while in Paris some of the angle treatment was simply beautiful. Against that, however, they had to put Mr. Norman Shaw's building in St. James's-street, and Mr. Colcutt's City Bank in Ludgate Hill, which spoke for themselves as beautiful modern examples of angle treatment. Mr. Statham had referred to the use and treatment of cement, and it would be acknowledged that they could treat cement in a way that other materials could not be treated. Cement, too, was a good medium; some of the best buildings in Pompeii were of cement, and surely architects of the present day ought to be able to deal with the material in a more truthful and artistic way than we have been accustomed to see in our streets. He disagreed entirely with what the President had said about the use of large sheets of glass, as he felt that proportion was entirely lost by their use. At the same time, shopkeepers had reason to complain, when they spoke of small panes being a nuisance in their endeavours to show their goods to advantage; they must, therefore, consider it a necessary evil to be dealt with, and that the lower part, at least, of the shop frontages must have large sheets. If they could treat them in the way the President had referred to so much the better, but the failures were much more conspicuous than the successes. Mr. Statham had not referred much to American buildings. Some parts of Chicago had imposing frontages, but great objection should be raised to the American system of casing an iron frame work with fronts of stone and other material. He was present at a fire in Toronto some twenty-five years ago. In twenty minutes after its commencement the whole of the stone front fell out, and only the iron skeleton was left of a building that was stated to be absolutely fireproof. There were two buildings which had disheartened him greatly, both being in positions deserving something much better. One was Artillery-mansions in Victoria-street, and the other the hideous Westminster-chambers opposite the Royal Aquarium. It seemed to him a disgrace that in these positions such buildings, leading up as they did to one of England's noblest monuments, Westminster Abbey, should be allowed to stand. He believed the paper would be of great use to them, and the more they considered the subject the better it would be for street architecture.

Mr. A. S. Flower said there were only two practical points arising out of the paper he would refer to. One was with regard to the use of recesses, which it had been suggested were impossible owing to considerations of economy. It was interesting to notice that in a city where he supposed economy and commercial advantages were as much appreciated as in London, viz., in Liverpool, recesses were a great feature of the business streets. Instead of letting down cranes on people's heads, as was done in Upper and Lower Thames-street, the cranes in Liverpool were situated in deep recesses 60 or 70 ft. in height, and these formed an important architectural feature. He could call to mind one corner building in which was a great recess up the centre of each side, the salient angle being treated in the manner of a tower, and this had a fine effect. The recesses themselves were treated with rounded angles, and the parapet was carried across them on bold arches. They had often been told to imitate Dutch houses in their streets, but in doing so the Dutch habit of cleanliness and painting every year must not be forgotten. In this country people built fronts, half of stone and half of brick, and left them to gradually get dirty, but the Dutch painted over all the small quoin blocks, voussoirs, &c., which in small street houses was perfectly legitimate. They would never get the effect which pleased them so much in Holland unless, like the Dutch, they used plenty of white paint on their stone-work, together with bright colouring on their doors and windows. If this were attended to, of course only in the case of unmonumental buildings, our walks abroad might be rendered a great deal more pleasant.

The vote of thanks to Mr. Statham was then put, and carried by acclamation.

Mr. Statham, in replying, said that he sympathised with the President as to the desirability of studying the effect of shadow in street architecture. Mr. Pite's remarks with regard to paint seemed to portend almost a revolution, although they might eventually receive the gospel of painted architecture. As to the merits of small panes, he had always said that what was wanted was to build in accordance with modern requirements, but he could not agree with the Chairman that large sheets of glass were really a necessary modern requirement, although many people appeared to fancy that they were. Interiors suffered in having such large plate-glass windows; there was a want of repose and seclusion. Moderate-sized panes were of value from the inside and outside of buildings. Mr. Clarkson had given an interesting bit of detail about the party-wall, which he himself had not noticed, and there were various points he would have gone into had he not felt that the paper was getting rather long. He was reminded of the question of the party-wall carried above the roof, which was objected to by many architects as a thing that spoilt street architecture. He did not agree with that opinion, he was convinced that it was a protection against the spread of fire; and the effect of the wall above the roof gave a little break to what would otherwise be one long uniform line, and there was no disadvantage connected with it. As to banks, he had reason to know that bankers generally did not consider a building completed without columns or pilasters. Mr. Adams had said that he had not referred to American buildings; he had found difficulty in getting illustrations of American street architecture, and, moreover, he had not had time to refer to everything; but there was one illustration—No. 105 on the screen—of the typical lofty American building. These buildings of enormous height might have a certain architectural merit, but the way in which they were treated, by being built with a steel frame and the wall outside, was killing architecture. Mr. Fellowes Prynne had spoken about angle buildings, and he agreed with that gentleman's remarks. As to cement, what he had meant to suggest was that it might be used by way of getting a white space on part of the wall, and thus having the effect of contrast, whilst it might also be used in a decorative manner. What he was thinking of was the chance of getting a bit of white wall to contrast with the rest, which would be a legitimate use of cement. As to the new buildings being erected in Westminster and other places, many of them were really vulgar specimens of architecture, and it was a shame that such a building as the Aquarium should be erected opposite the Abbey. He thanked Mr. Flower for his remarks, from which he did not differ in any way. Mr. Statham concluded by expressing his obligation to Mr. Stevenson, Mr. Ernest George, and other gentlemen, for the loan of some of their drawings on the occasion.

Thanks were also given to Mr. E. W. Wonnacott, for his successful manipulation of the A.A. lantern.

The Chairman then said that the next paper would be read on the 18th inst., by Mr. W. H. Seth-Smith, and was entitled "A Plea for the Application to Architectural Design of Natural Forms as revealed by the Microscope (with illustrations)."

The proceedings then terminated.

MOTOR-CAR NOISES.—Before Judge Shand and a jury, at the Liverpool County Court, on the 7th inst., John M. Sutherland claimed damages from the North of England Horseless Carriage Company for injury caused to his pony and trap in consequence of the former having been frightened by a motor car belonging to defendants. The plaintiff stated that the motor car made a loud noise resembling the sound produced by a threshing-machine, and it so frightened his pony that it bolted and collided with a van. The jury found for the plaintiff, and awarded him 12*l.* 10*s.*

COLOUR IN THE ARCHITECTURE OF CITIES.

On Thursday last week the concluding lecture in connexion with the Arts and Crafts Exhibition Society was given in the New Gallery, Regent-street, by Mr. Halsey Ricardo, whose subject was "Colour in the Architecture of Cities."

After a few preliminary remarks, the lecturer said that colour demanded large spaces on which to realise itself; in small patches and spots it served chiefly to irritate us, both by calling attention to the want of it elsewhere, and by its failure to count as colour. If colour required to be dealt with only in large areas and with broad effects, it must be applied on some broad general principle, and not left to the taste of individual efforts. In considering a scheme for the colouring of a city, one must distinguish between those places where Nature's palette could be employed, and where man's must be used. In our parks, squares, and open spaces, we could use trees, turf, and flowers, but in our streets, where the only colour that was not of our own making or collecting, was the narrow strip of sky above our heads, we must look to the buildings themselves to supply us with colour. On what principle of the application of colour were we to work? The answer was that just as the city, in its disposition of its forms and spaces represented the corporate life of its citizens, so the colouring should be an indication of its corporate life also—that was to say, the colouring in the main should be heraldic. This had already been felt and acted upon in the instances where colour had been employed by bodies of men, such as vestries, parish councils, railway companies, and the State. In London, each parish coloured its lamp-posts the parish colours; the dust and water-carts carried the proper bearings and legends; throughout Great Britain scarlet was the proper tincture of the Post Office; on the sea coast the eye was gladdened, and the landscape relieved, by the black and white heraldry of the coastguard stations; and our railway trains and omnibuses told by their colour the companies to which they belonged and the routes they took. If this were followed out, a kind of classification of buildings would grow up, each group denoted by some special colour treatment. State buildings would be built, as indeed they were, of stone, with wide, open spaces all round, and the colour would be supplied by means of broad tracts of turf and evergreens in formal shapes, and our railway stations, with their cuttings, arches, and passages, might be lime-whited, as well as the hotel frontals. This whitening would require frequent renewal, but from a sanitary point of view that would not be a disadvantage, while such a determined attack on the gloom and dirt of railway stations might do a further good by calling upon invention to relieve the pressure of expense by contriving methods whereby the combustion of coal would be more cleanly done and the sum total of dirt in other ways diminished. London was already divided up into various divisions—electoral, parochial, and the like—and advantage might be taken of these to display them outwardly to the eye. The parish lamp-post and other obstacles were already distinguished from each other by pattern and colour. To define the boundaries by means of the colour of area railings, parochially coloured, would be an additional convenience; and some form of superposed tint or quartering on part might define the electoral divisions. That whole streets should be coloured, or built of coloured materials, was perhaps too much to ask for—at least, at the beginning; but crucial houses, such as those that occurred at the corners of streets, having important information to give, or those on the verge of the parish boundaries, should proclaim their position and knowledge by their easily recognisable colourings. Moreover, the Vestry Hall and Parish Library would gather up in concentrated form the accepted heraldry of their office and locality, making them landmarks in the neighbourhood by the splendid richness of their colour, containing in their accumulation the separate badges and symbols elsewhere distributed through the locality, and explaining in the sum of their achievement the various voices whose utterances formed the chorus of civic life. The system of indicating historical houses and houses made notable by some famous inmate, might be made far more effective by a larger method of proclaiming the fact. At present the writing on the disc was often illegible to all but the keenest eyes. In the matter of architecture, we might use colour to signify and tell things that one could not possibly explain by form, or light and shade alone. The lecturer subsequently referred to our effort to obtain colour, mentioning the flowers in our windows, the trees in our streets, and the poster on our hoardings, and stating that he had heard it regretted that the hoarding, with its wealth of colour, would have to yield place to the building that was growing behind it. He also referred to the value of colour in a place like London, and to the fact that in the dawn of history cities arose as complete conceptions at the command of one man or a group of men, and that they were resplendent with colour. Reference was also made to the splendour of the colour in Venice in the middle ages, and to the colouring in England of our abbeys, cathedrals, churches, and houses—and generally in our streets and on the river. The opulence and extravagence of colour mounted high until it reached the Field of the Cloth of Gold, when came the reaction, and so far as the people were concerned colour outside the home faded entirely away. Still, elements of colour remained that were fading now: the sky was clear, for instance, and the grass was green. In our time, however, a revival in attempts to produce coloured architecture has sprung up. Red bricks and terra-cotta discoloured; coloured stones and marbles grew dim and perished in great haste; and it would seem as if no building material but what had got practically a glass face to it would be able to contend against the corrosion of the air of a manufacturing city. The use of permanent coloured building materials in our towns would involve great changes in our treatment of buildings, especially as regarded all projections. The mere fact that they were permanent was a shock, because till now we had been in the habit of calling upon time to aid us; but all those shadows and half-tones that we so carefully construct by means of cornice and pillar, architrave and moulding, we could supply in colour—that was, we could get their equivalents in contrast by variety of colour. In our dark and narrow streets, what a boon to be relieved of the presence of cornice and pillar, especially when they appeared to be resting on huge masses of plate glass! We wanted no projecting mouldings in our streets, and nothing to lessen the sunshine that might get in them; nothing on which the soot and dirt might lodge. Every time that the woodwork of our windows had to be repainted, the walls would be washed down and the buildings would be as they were on the first day that the scaffolding was removed. That light colours should only be used in dark places was a fallacy, but, of course, there were occasions when the necessity of reflecting back the maximum amount of light would over-ride all other conditions, though this did not affect the fact that the full wealth of colour was best seen, not under strong light, but under soft half light. The lecturer, in conclusion, gave an interesting description of a suggested treatment of Trafalgar Square, the finest site in Europe, "in terms of colour."

Mr. Walter Crane, at the conclusion of the lecture, said that as Mr. Ricardo's was the last of the course of lectures, he wished to express his sincere thanks on behalf of his colleagues, as well as himself, for the interest and appreciation which had been shown in them. Various suggestions had been made by the lecturers, and it was to be hoped that sooner or later some of those suggestions would be carried out.

THE ARCHITECTURAL ASSOCIATION DISCUSSION SECTION.

The fourth meeting for the current session of this Section of the Architectural Association took place at 56, Great Marlborough-street on the 2nd inst., when Mr. A. E. Henderson read a paper entitled "The Byzantine Spirit in Italy and Sicily." The reader of the paper gave his impressions of Byzantine work as seen in St. Mark's, Venice; San Vitale, Ravenna; the Cappella Palatina, and Monreale Cathedral, Palermo; and his remarks were supplemented by an extensive collection of his water-colour drawings made in Italy and by photographs of the places mentioned. Mr. Henderson mentioned certain points of design which he thought worthy of study or imitation, and made some useful remarks about wall decoration in mosaic. The paper was not of a nature to provoke much discussion.

Mr. C. Harrison Townsend, who kindly attended as Special Visitor, gave some valuable information as to the best way of executing mosaics, condemning the modern commercial method of preparing mosaics in Venice and fixing them by the square yard in England or elsewhere. He recommended the method adopted by Mr. Richmond at St. Paul's, or a modification of it, which would tend to make the execution rather less laborious while retaining the artistic feeling needful to good work. He also uttered a warning as to the uselessness of going to history for the study of outward forms rather than of the spirit of the work. It was also pointed out that mosaics, if done at all, should sweep all over, so as not to be done in patches or panels, and that mosaic was suited for situations distant from the eye and for positions not over-flooded with light, or where the light was mainly directly opposite to it.

The next meeting will be on December 16, at 7 p.m., when Mr. R. S. Balfour will read a paper entitled "Pictorial Architecture."

THE LONDON COUNTY COUNCIL.

The usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Sir Arthur Arnold, Chairman, presiding.

Loan.—On the recommendation of the Finance Committee it was agreed to lend the Stoke Newington Vestry 2,000*l.* for paving works to the carriageways of Green-lanes, High-street, and Stoke Newington-road.

The Allegations against a Member.—The General Purposes Committee submitted an urgency report in which they stated that a letter had been received from Mr. Emden with reference to the allegations made by Mr. John Burns, M.P., in which he stated that he was perfectly willing that any course which the Chairman might think right in the matter should be taken. The Chairman of the Council had informed them that, in his opinion, the allegations rendered an inquiry necessary. They recommended and it was agreed that a Special Committee of Inquiry, to consist of the Chairman, Vice-chairman, and Deputy-chairman, be appointed.

The Superintending Architect.—The General Purposes Committee reported as follows, the recommendation being agreed to:—

"On December 10 last year we reported that Mr. T. Blashill, the Superintending Architect, had attained the age of 65 years, and the Council passed the following resolution—'That as the retirement of Mr. T. Blashill would cause inconvenience to the public service, he do continue to hold his appointment for another year, and that it be referred to the General Purposes Committee to report what (if any) changes in the Architect's Department it is now desirable under the circumstances to make.' The year being about to expire, we have again had the matter under consideration. The question of making any change in the work of the Architect's Department is still before us, the matter having been adjourned for six months. Owing to the many duties devolving upon the department, and to the large staff of which the department consists, the work of considering and carrying out a scheme of reorganisation must necessarily take a long time. Moreover, there are many other matters now under the consideration of the Council upon which it is most desirable for the Council to have the advantage of Mr. Blashill's advice and assistance, and we are therefore of opinion that the retirement of Mr. Blashill at the present time would be a serious inconvenience and loss to the public service. Pursuant to the terms of the Standing Order relating to the retirement of officials, we accordingly recommend—

'That as the retirement of Mr. T. Blashill would cause inconvenience to the public service, he do continue to hold his appointment for another year.'"

The Water Purchase Bills.—The Parliamentary Committee, with reference to the water question, recommended "That the eight Purchase Bills, entitled Chelsea Waterworks, East London Waterworks, Grand Junction Waterworks, Kent Waterworks, Lambeth Waterworks, New River Waterworks, Southwark and Vauxhall Waterworks, and West Middlesex Waterworks for the purchase by the Council of the respective undertakings of the eight Metropolitan Water Companies be approved; that the seal of the Council be affixed to petitions for leave to bring in the Bills; and that the Bills and petitions be deposited, pursuant to the Standing Orders of Parliament, with such necessary alterations (if any) in the Bills as the Parliamentary Committee may consider desirable."

Sir John Lubbock, M.P., who had the following notice of amendment on the paper—"That, in the opinion of the Council, a well-considered system of control of the Water Companies would, under existing circumstances, be preferable to the proposals for purchase contained in the Water Bills presented to the Council by the Parliamentary Committee," asked at what stage he could move it.

The Chairman ruled the amendment to be out of order. The question was merely to consider the Bills the Council had already instructed the Committee to prepare.

Sir John Lubbock observed that if the Council could not discuss the policy of the Bills at that stage, it was a mere farce to submit them. They were asked to decide a matter that involved an expenditure of some 30,000,000*l.*

Mr. M'Kinnon Wood, Chairman of the Parliamentary Committee, pointed out that the matter had been sufficiently discussed and decided on November 10 last.

The Council proceeded to discuss the Bills clause by clause, taking the Lambeth Bill as the simple measure.

Mr. H. P. Harris, on Clause 4, moved to substitute "may" for "shall" as to proceeding to purchase within twelve months.

This was defeated on a division by fifty-three votes to fifty-one.

Other amendments were also rejected, and the recommendation of the Committee was carried by sixty-one votes to fifty-four.

The Tramway Question.—The Council agreed, after a long debate, to approve the estimate submitted by the Finance Committee for the proposed purchase by the Council, under agreement, of the lines, depots, &c., of the North Metropolitan Tramways Company and the London Street Tramways Company, within the county area, with certain exceptions and additions, and for the subsequent lease of such lines to the North Metropolitan Tramways Company.

Occupation of Newly-built Houses.—The adjourned report of the Public Health Committee contained the following paragraph :—

"On June 16 last the Council on our recommendation instructed the Parliamentary Committee to insert clauses in the Council's General Powers or other Bill of next session, enabling the Council to make by-laws similar to those which can be made by Urban Authorities outside London under Section 157 of the Public Health Act, 1875, for the following purposes, viz. : (a) The giving of notices and deposit of plans and sections by persons intending to carry out drainage work in connexion with buildings, inspection by the sanitary authority, and power to such authority to remove, alter, or pull down any work begun or done in contravention of the by-laws. (b) The prevention of the occupation of any new dwelling-house until the drainage thereof shall have been made and completed, and the dwelling-house certified by a duly authorised officer of the sanitary authority to be, in his opinion, in every respect fit for human habitation. We have now received from the Parliamentary Committee a report by the Parliamentary agent pointing out that a by-law to the effect of paragraph (b) would make the letting and occupation of any new dwelling-house dependent entirely upon the individual opinion of an officer of a Sanitary Authority as to what is and what is not fit for human habitation. The agent states that, though it is possible such a by-law may in some provincial towns have been adopted by the Local Authority, and sanctioned by the Local Government Board, he doubts if it would be in any large town where the building and land development interest is powerful. He does not think that the Council could succeed in justifying an application for powers to make such a by-law in London, looking to the fact that there are more than forty Sanitary Authorities, whose officers might entertain different opinions on the subject of the by-law, and that what might be regarded as fit for habitation in one district would, perhaps, not be certified as such by the officer acting in an adjoining district. After giving the subject further careful consideration, we have informed the Parliamentary Committee that we think the question of obtaining power as regards the certificate that a house is fit for habitation should stand over for the present, but that clauses should be inserted as to the other by-laws referred to, viz., those relating to plans and notices of drainage works. We recommend that the course taken be approved."

New Theatre (Norris-street, Haymarket).—The report of the Theatres and Music Halls Committee contained the following paragraph :—

"The Council, on June 30, 1896, approved of two drawings, submitted on behalf of Mr. Henry Dana, showing a site for a proposed theatre situated at the junction of Norris-street and St. Alban's-place, Haymarket. Norris-street is only 28 ft. 6 in. in width at one end, but is shown on the drawings above mentioned to be increased in width to 30 ft. in front of the theatre. We have now considered seven drawings, dated November 10, 1896, submitted on behalf of Sir Henry Brownrigg, for the erection of a theatre upon this site. Seating accommodation will be provided for 800 people, and all the regulations of the Council will be complied with. We recommend—'That the seven drawings, dated November 10, 1896, be approved, on condition that the works be commenced within six months, and be carried out in all respects in accordance with the Council's regulations and the provisions of the London Building Act, 1894, and that upon our reporting the completion of the building in accordance with the approved drawings and the above conditions, a certificate under the Metropolis Management and Building Acts Amendment Act, 1878, be sealed and issued to the owner of the premises.'"

Appeal to the Tribunal against requirements of a District Surveyor.—The Building Act Committee reported as follows : —

"We have to report for the information of the Council that Mr. H. Willcox having appealed to the Tribunal against the requirements of Mr. P. Hunter, District Surveyor, with regard to certain alterations at the British Home for Incurables, Streatham Common, the Tribunal, has without making any order as to costs, allowed the appeal as regards (1) the wall on the north side of the staircase, and (2) the means of escape in case of fire from the upper story ; but the Tribunal in giving its decision expressed the opinion that the construction of the rooms would render them dangerous in case of fire if they were to be used as wards."

The Council having transacted other business adjourned at twenty minutes to nine o'clock.

BUILDERS' BENEVOLENT INSTITUTION :

ANNUAL DINNER.

THE Forty-ninth Annual Dinner of the friends of this Institution took place on the 3rd inst., at Carpenters' Hall, London Wall. Mr. Henry Holloway (President) occupied the chair, supported by the Master of the Carpenters' Company, Messrs. Trollope, T. Blashill, Howard Colls, Bird, Rowland Plumbe, E. W. Mountford, Dove, G. Burt, Nightingale, John Slater, Fletcher Moulton, Q.C., Daniel Watney (President of the Surveyors' Institution), J. T. Bolding, T. Stirling, C. Bussell, Shepherd, Lough, and a numerous company.

The Chairman gave the usual loyal toasts, which were enthusiastically received.

Mr. B. Greenwood proposed "The Army, Navy, and Auxiliary Forces," Major Brutton (Secretary), responding for "The Army and Navy," and Major W. B. Brown for "The Auxiliary Forces."

The Chairman, in proposing the toast of the evening, "Success to the Builders' Benevolent Institution," said that the charity was founded to provide a small allowance for builders and their widows, who, after the age of sixty years, had need of help so as to keep them out of the workhouse. It was now forty-nine years since the Institution was established, and during that time 270 cases had been relieved, and only those who were brought into contact with poverty were aware what such an allowance as they were able to give was to those who were so reduced. The allowance was not large, being 15*s.* a week to each male, and 10*s.* to each female pensioner. A sum of 2,000*l.* per annum was required to keep the Institution going ; of that amount under 700*l.* came by way of subscriptions, the remainder being raised in connexion with the annual gathering, with a small income from investments. Every precaution was taken to see that the applications were worthy of support ; the money was carefully dealt with by an efficient Committee. He considered it was his duty to make some public repudiation of some of the statements made by certain representatives of the London County Council and in the Press. It had been stated that one reason why the Works Department had been established was because of a certain "ring" on the part of the contractors to do what they liked with the works of the County Council. He was in a position to give a most emphatic denial to that statement ; such a "ring" had never existed, nor was it thought of. When the charge was first made the Builders' Association corresponded with Lord Rosebery, the then Chairman of the County Council, challenging him to have an independent inquiry. The reason why the builders would not tender for the County Council work was simply because of the unfair conditions put into their contracts, which no man having regard to his position as a contractor could possibly sign. It was stated that by means of this Department, although the work cost more money, a better quality of work would be done, there would be less sub-contracting, and the men would get better pay and be under more satisfactory conditions. Now, this touched him keenly. His firm had done a considerable amount of work for the County Council, and he was in a position to challenge these statements. The work was not done better, the men preferred to work for private firms, and there was less sub-contracting carried on by the contractors than by the Works Department of the County Council. Why the Works Department had not been a success he would not attempt to suggest, except to say that some of those present were not at all surprised ; in fact, they anticipated it would be so. Returning to the claims of the charity, twelve candidates would present themselves for election this month. The Committee, owing to the liberality extended to the Institution last year, had a little money in hand, and if they could raise anything like a similar amount, they had made up their minds to elect the twelve applicants. The Chairman coupled with the toast the name of Mr. George Plucknett, J.P. (Hon. Treasurer) whose advanced age prevented his being with them that evening.

The toast was very cordially received.

Mr. F. J. Dove gave the toast of "The Worshipful Company of Carpenters." For many years the Company had kindly given the use of their magnificent hall for these annual gatherings, besides subscribing liberally to the charity, and spending large sums on technical education.

The Master of the Carpenters' Company (Mr. Jacobs) replied, and expressed his pleasure at seeing so large an assemblage. Last year the Company expended 2,929*l.* on charity, and 4,092*l.* on technical education.

Mr. Howard Colls gave the toast of "The President," and bore testimony to Mr. Holloway's great services to the trade ; the Chairman made a suitable reply.

Mr. W. Shepherd proposed "The Architects and Surveyors," remarking that he was glad to see so many gentlemen of those professions present. There could be no question, he contended, that the profession of architecture now occupied a much higher position than in years gone by, and they had only to look at the great cities of this country to see the evidences of the advancement of architecture within their own memories. Then, again, the surveyors were a well organised body, with plenty of means at their disposal, and they were now building as fine a home for themselves as could be claimed by any other professional body in the Metropolis.

Mr. Rowland Plumbe replied for "The Architects." He considered there was far too much litigation between builders and architects' clients, but he was proud to say that during an active practice of over thirty-five years he had never had occasion to bring in any legal services for the settlement of such matters.

Mr. Daniel Watney (President of the Surveyors' Institution), responded for "The Surveyors," and referred to their intimate relation with the building trade.

Mr. Fletcher Moulton, Q.C., gave "The Vice-Presidents, Committee, and Stewards," Mr. A. Ritchie, J.P., replying for "The Vice-Presidents," and Mr. J. T. Bolding for "The Committee and Stewards."

During the evening Major Brutton announced donations amounting to 929*l.*, of which 800*l.* appeared on the President's list.

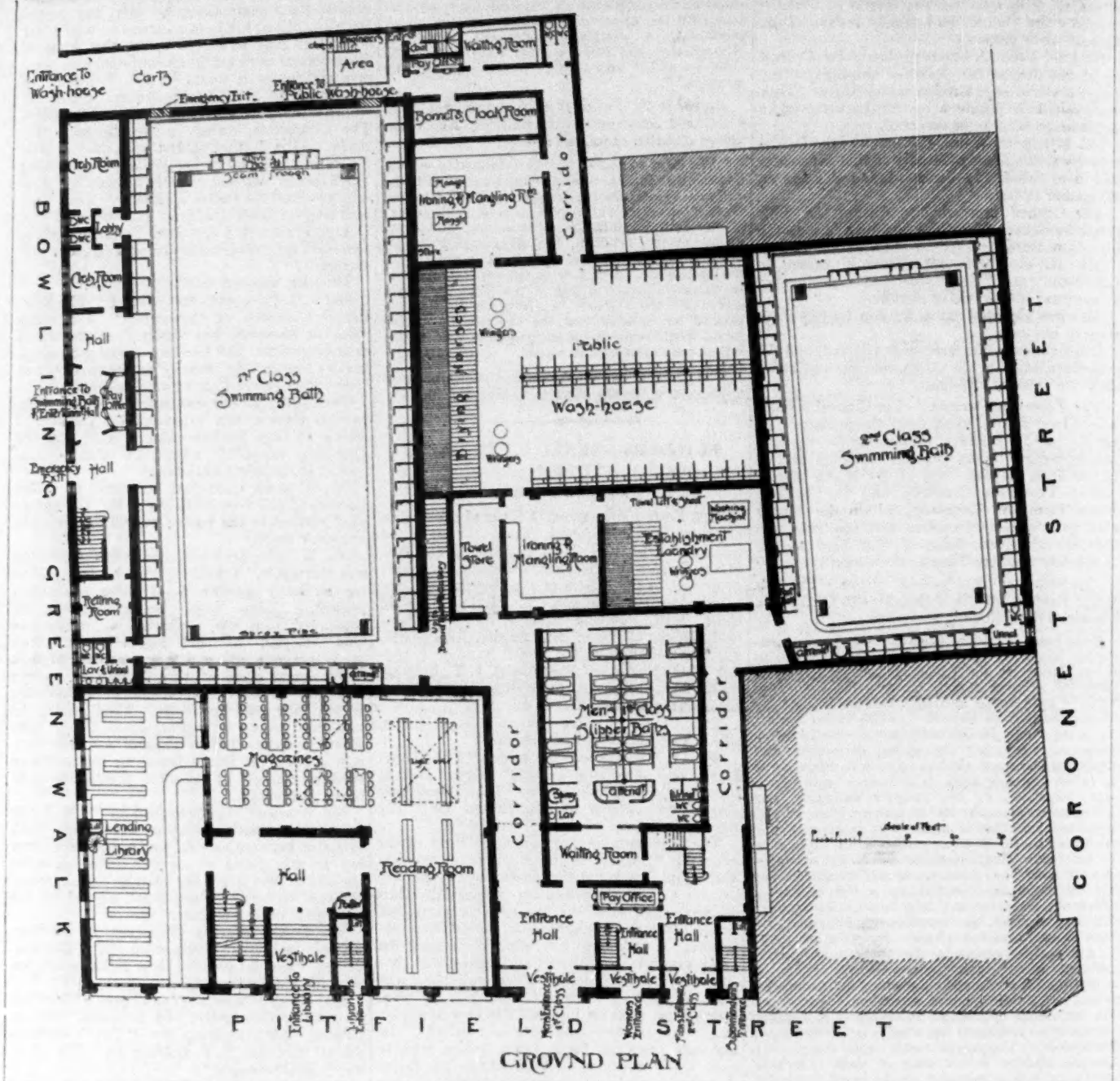
COMPETITIONS.

CHURCH SCHOOLS, ST. GEORGE, HANOVER-SQUARE.—In a limited competition recently held for these schools, the assessor, Mr. J. Macvicar Anderson, F.R.I.B.A., has recommended the acceptance of the designs by Mr. Philip Appleby Robson, of Palace-chambers, Westminster. The school is to accommodate infants, junior mixed, boys and girls, and the estimated cost is 10,450*l.*

PUBLIC BATHS, FOLKESTONE.—At the last monthly meeting of the Folkestone Corporation the design submitted in competition under the motto "Bonâ Fide" was accepted, the author being Mr. Reginald Pope, architect, Radnor Chambers, Folkestone.

ABERAYRON INTERMEDIATE SCHOOL, CARDIGANSHIRE.—The competition for the Aberayron Intermediate School has just been decided, with the result that the design submitted by Mr. Ll. Bankes Price, B.A., of Lampeter, has been selected.

BELFAST CITY HALL.—A special meeting of the Belfast City Corporation was held on the 7th inst. in committee. The Town Clerk reported that the meeting had been summoned pursuant to the resolution of the Council on the 1st inst. referring back the question of the selection of plans for the proposed City Hall. A letter was read from Messrs. R. G. Watt & Tulloch, authors of plan 22, withdrawing it from competition, intimating that they looked upon the decision of the assessors as final, and that no one was more surprised than



GROUND PLAN

Design for Public Library, Shoreditch. Plan.

they were to hear that their design had been placed in the way it was. It was proposed by Sir William M'Cammond and seconded by Councillor Barklie, "That the Council, in committee, acting upon the advice of the assessors, do hereby select three plans for the City Hall numbered 30, 42, and 43, for the authors to enter into final competition." An amendment was proposed that the erection of the City Hall be postponed for twelve months. This, however, was withdrawn. A further amendment to the effect that the assessors be required to attend to assist the Corporation in making a selection of three plans that would comply with the printed conditions in respect of material, &c., was lost, it being understood that the authors of the selected plans would submit further drawings, which would be referred to a quantity surveyor and builder to price up, and if any of them should exceed the limit of 150,000*l.*, it would then cease to be qualified for the final. Eventually the original motion was carried unanimously, after a sitting of nearly two hours. For the confirmation of the finding a meeting was called for Friday (yesterday).

SEWERAGE SCHEME, BOURNEMOUTH. — Mr. Frederick H. Tulloch, M.Inst.C.E., an inspector of the Local Government Board, held an inquiry at the Municipal Offices recently into the application of the Bournemouth Town Council to borrow 4,500*l.* for works of sewerage. The Borough Surveyor (Mr. F. W. Lacey) attended the inquiry.

Illustrations.

CHURCH OF ST. MARY OF THE ROSARY, NENAGH.

WE publish this week an interior view of this church, which was dedicated on August 23 last, having been built at a cost of about 25,000*l.* exclusive of the interior fittings, which are very complete. In designing the church the desire of the architect was to use local materials as far as possible.

The exterior is faced with uncoursed hammered masonry, while the dressings of a lighter tone of colour affords a pleasing contrast with the general walling. Both stones are a variety of the local limestone.

The nave arcade and the interior cut stone is from the Portland and Corsham Down quarries, Irish marble for hook-shafts being extensively used throughout.

The roofs are of timber, stained and varnished, the chancel roof being intended for colour decoration.

The style of the church is of the Early English period. The severer type of the Cistercian abbeys of Yorkshire is the example for the general character of the detail.

Mr. Walter G. Doolin, M.A., of Dublin, is the architect, and Mr. John Sisk, of Cork, the contractor.

The design was selected in a competition in which Mr. Thos. Drew acted as assessor.

BUSINESS PREMISES, BERLIN.

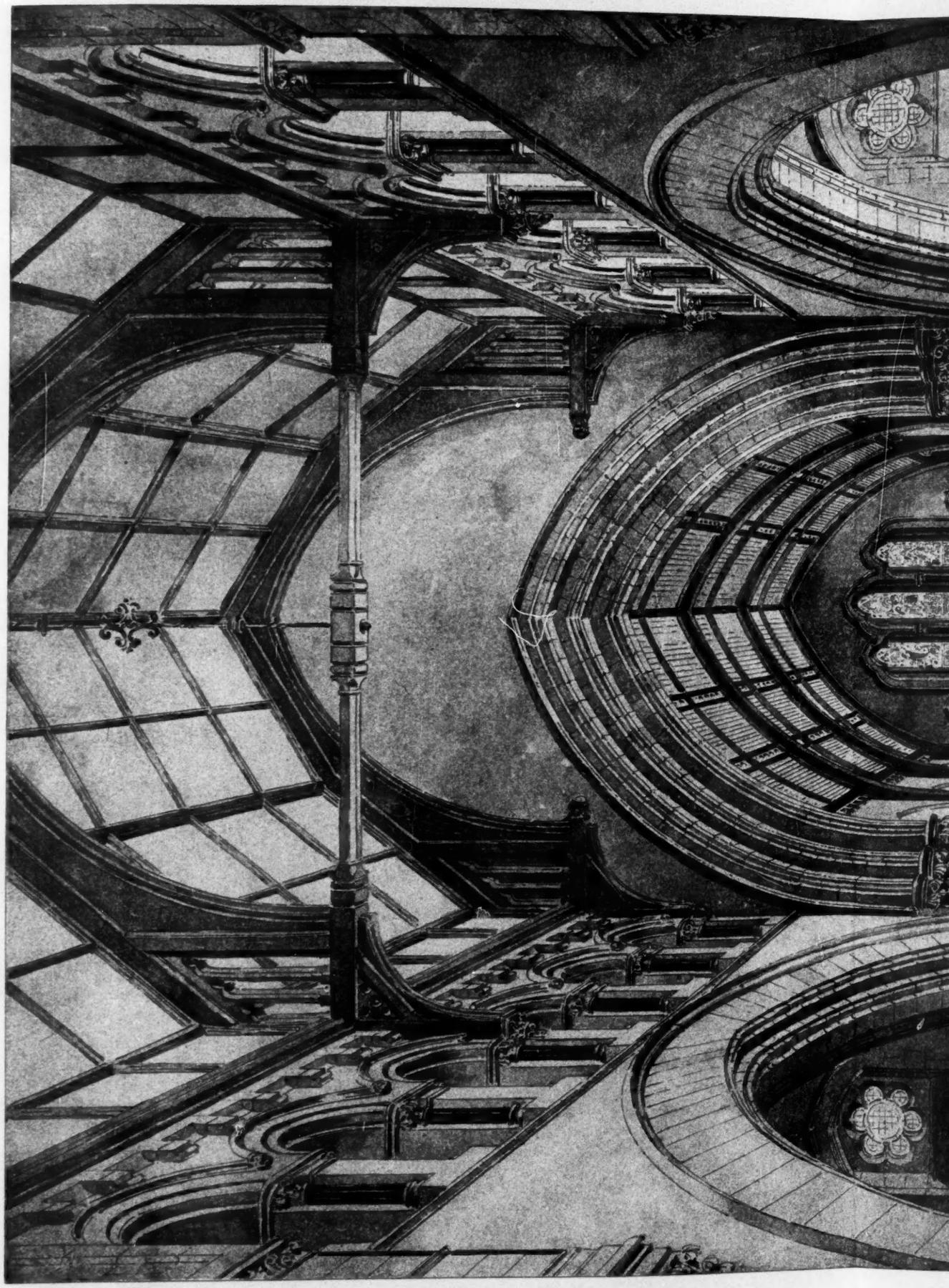
THESE buildings have recently been erected at the corner of Kaiser Wilhelm-st. and Rosen-st. Two syndicates known as the Bangesellschaf. Rosenstrasse and the Bangesellschaft Neue Friedt richstrasse have respectively bought up two adjoining sites of considerable dimensions. The Rosenstrasse block has a frontage of over 300 ft. and a frontage depth of 125 ft., which has been divided up into four plots of approximately equal superficial area. The requirements of the neighbourhood are such as not to necessitate large shop windows on the one hand, whilst on the other the very stringent Building Act, and modern warehouse regulations for the city, have required large courtyards accessible by at least one carriage-way of 10 ft. width, and have prevented more than two-thirds of the superficial area being covered over. The architects, Messrs. Kayser & von Grossheim, have also had to contend with the very stringent regulations in respect to the structure, the strength of girders, the bulk of piers, &c., and we consider that the building may, in fact, be considered as an example of what we might term a State-regulated building of the warehouse class.

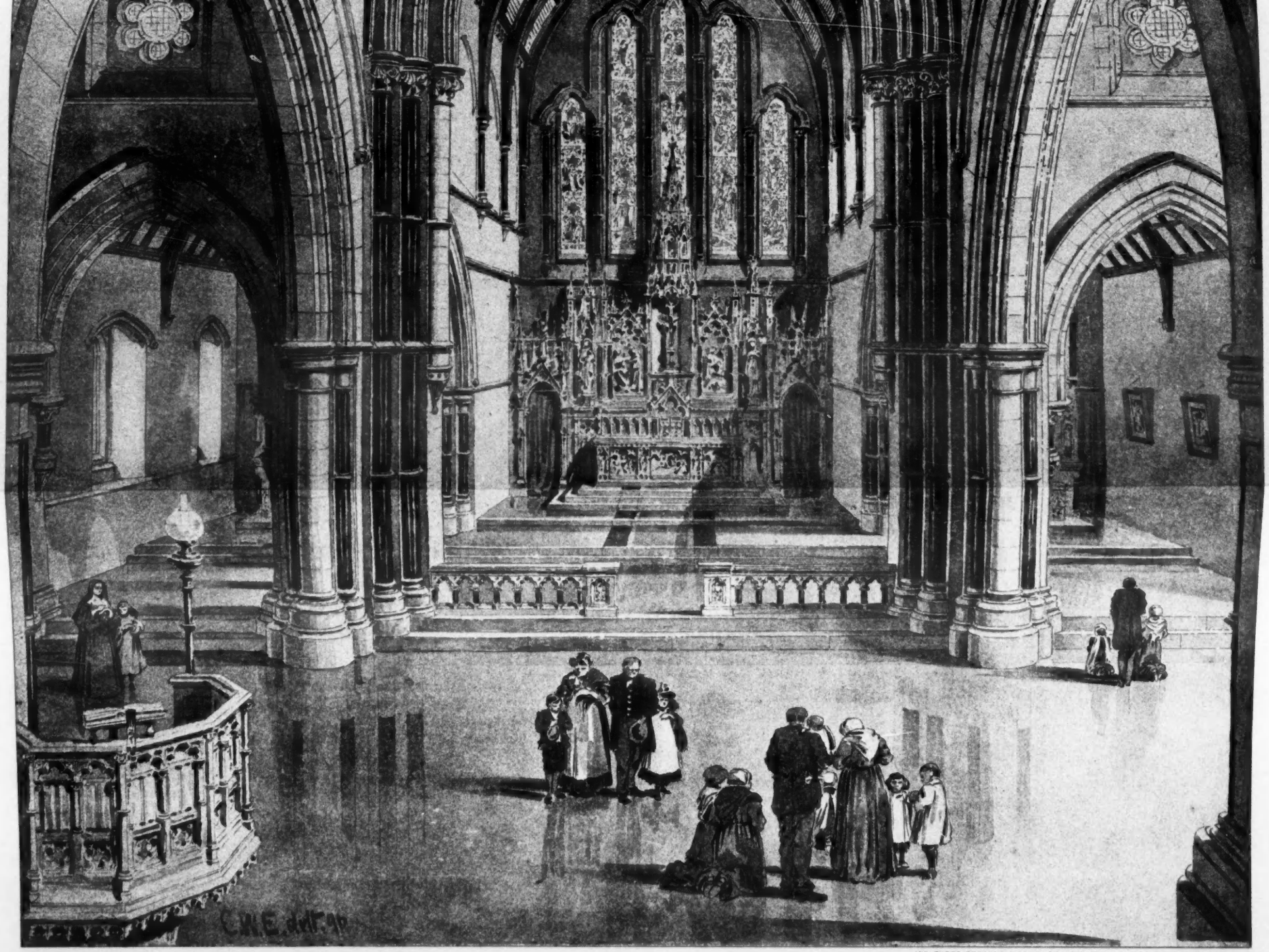
MESSRS. MACMILLAN & CO.'S NEW BUSINESS PREMISES.

THIS building, now in course of erection by Messrs. Patman & Fotheringham (builders), has frontages in three streets, the principal entrance

INK-PHOTO. SPRAGUE & CO. 3 & 5 EAST HARDING STREET, FETTER LANE, E.C.

CHURCH OF ST. MARY OF THE ROSARY, NENAGH (IRELAND).—Mr. W. G. Doolin, Architect.





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CHURCH OF ST. MARY OF THE ROSARY, NENAGH (IRELAND).—Mr. W. G. Doolin, Architect.

GESCHÄFTSHAÜSER
ECKE KAISER WILHELM -
& ROSENSTR.
BERLIN
KAYSER & v. GROSZHEIM
ARCHITECTEN
MULLER & HAGER

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TREET ARCHITECTURE, BERLIN

GESCHÄFTSHAÜSER
ECKE KAISER WILHELM -
& ROSENSTR.
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MÜLLER & HAGER

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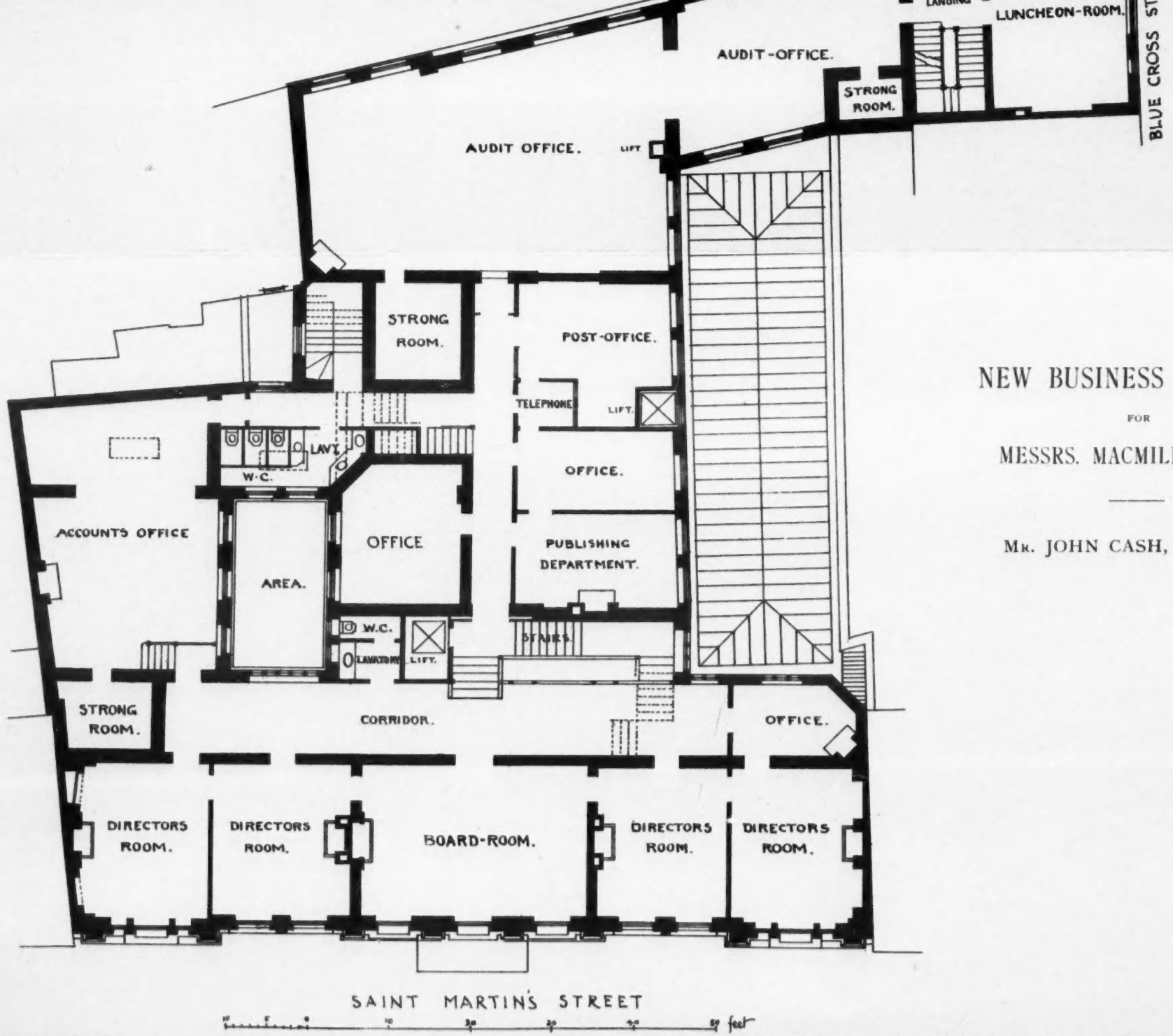
TREET ARCHITECTURE, BERLIN

WHITCOMB STREET
LANDING
LUNCHEON-ROOM.
CROSS STREET
AUDIT-OFFICE.
STRONG



NEW BUSINESS PREMISES

FOR

MESSRS. MACMILLAN & CO.

MR. JOHN CASH, ARCHITECT.

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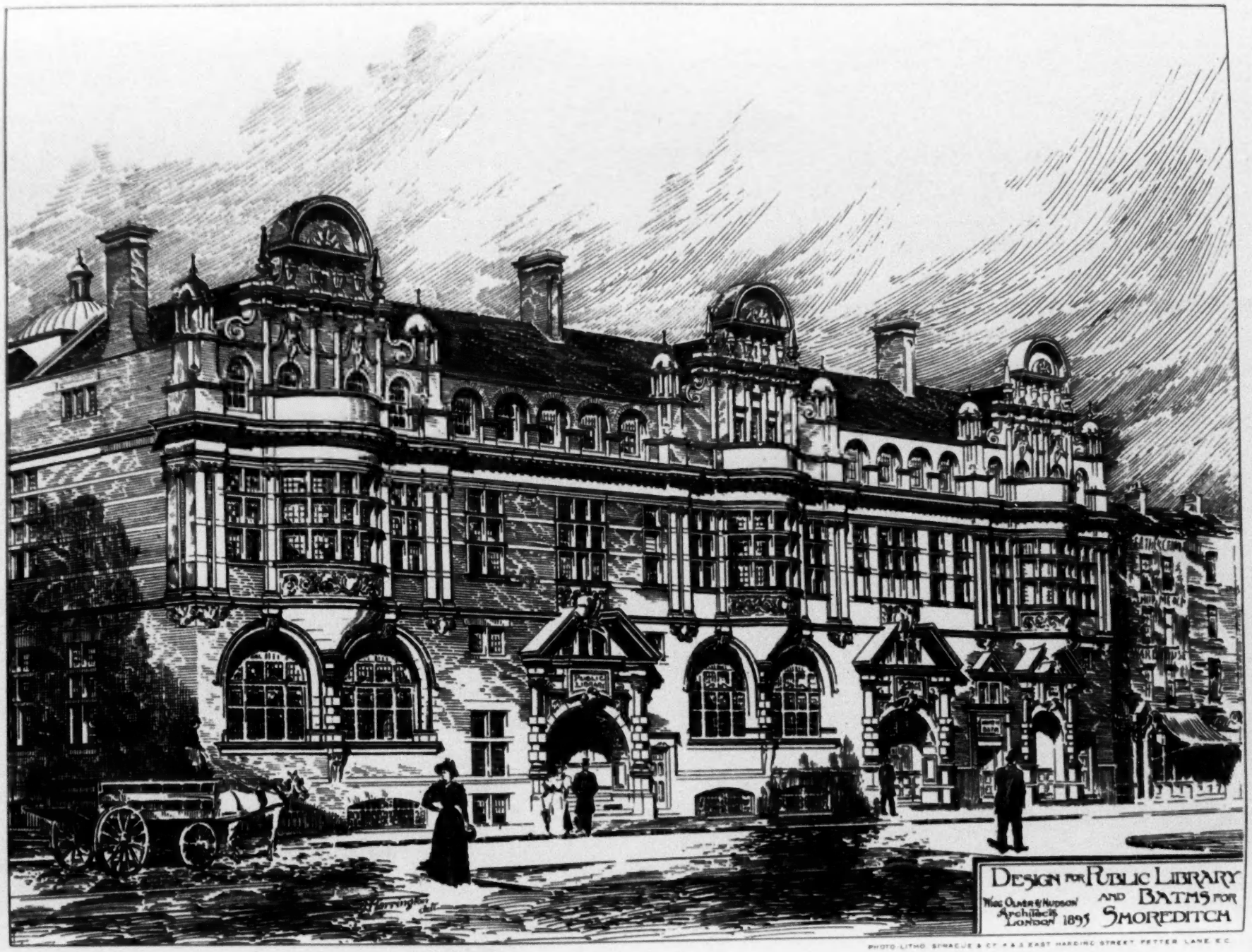

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WEST HAM TECHNICAL INSTITUTE AND PUBLIC LIBRARY:

PERSPECTIVE VIEW

By Mr Clarence Coggin A.R.I.B.A.

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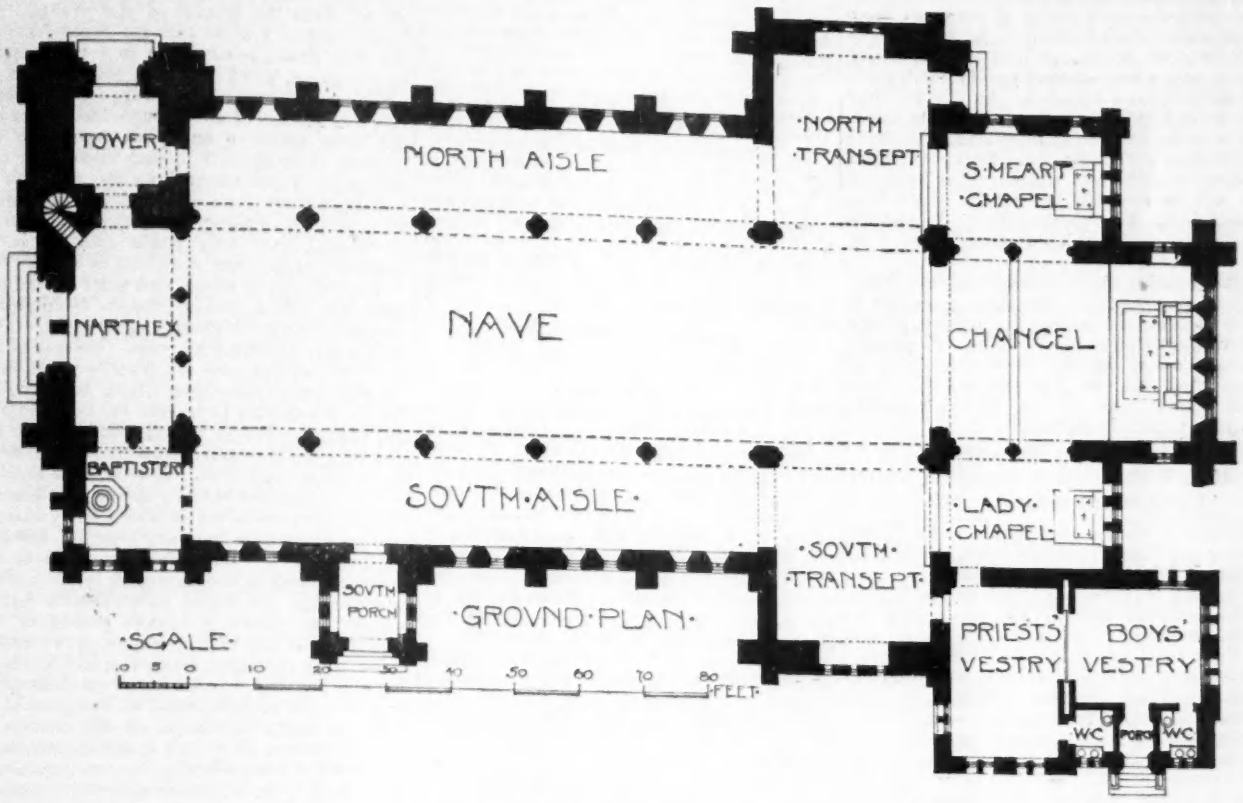
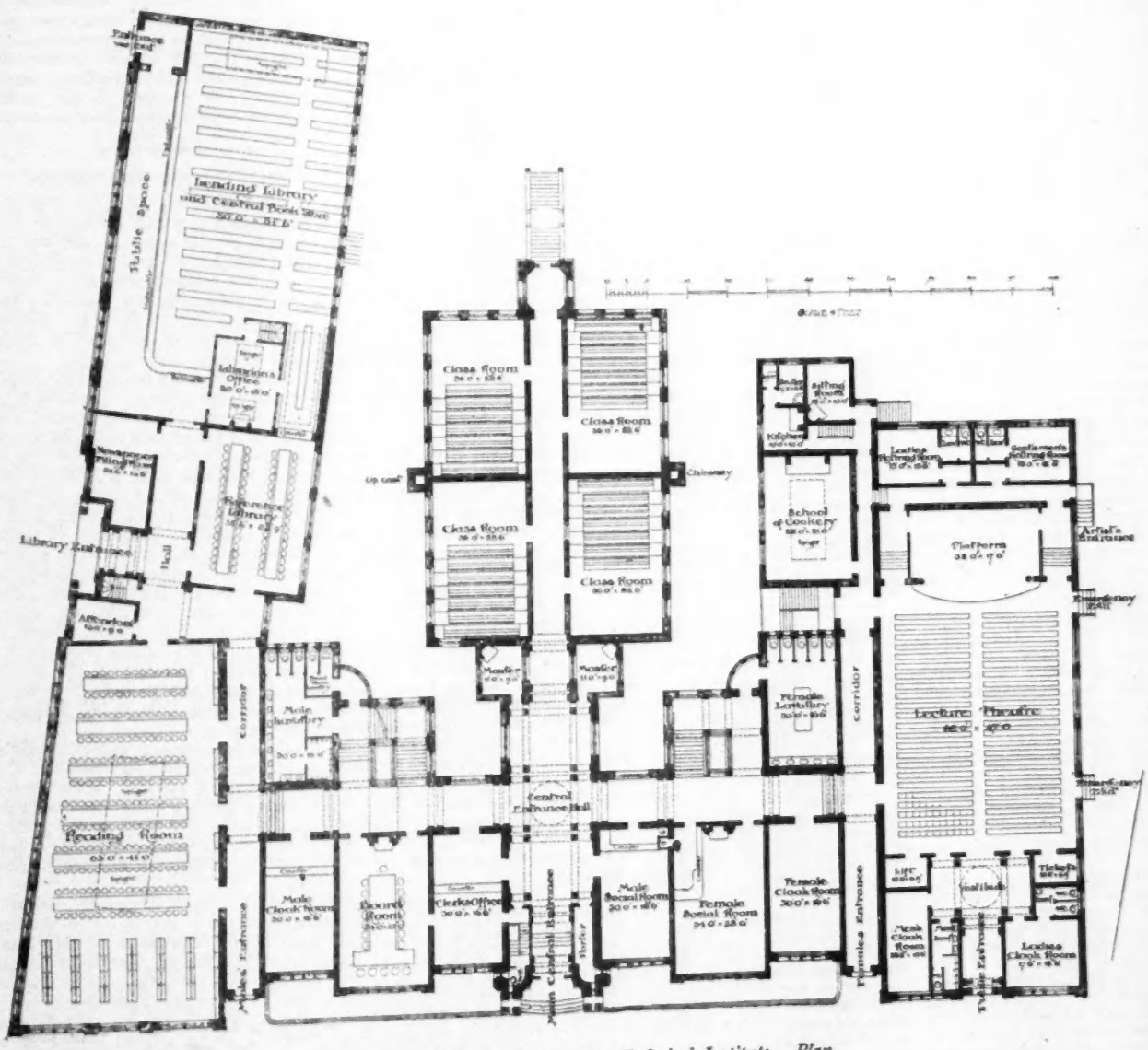
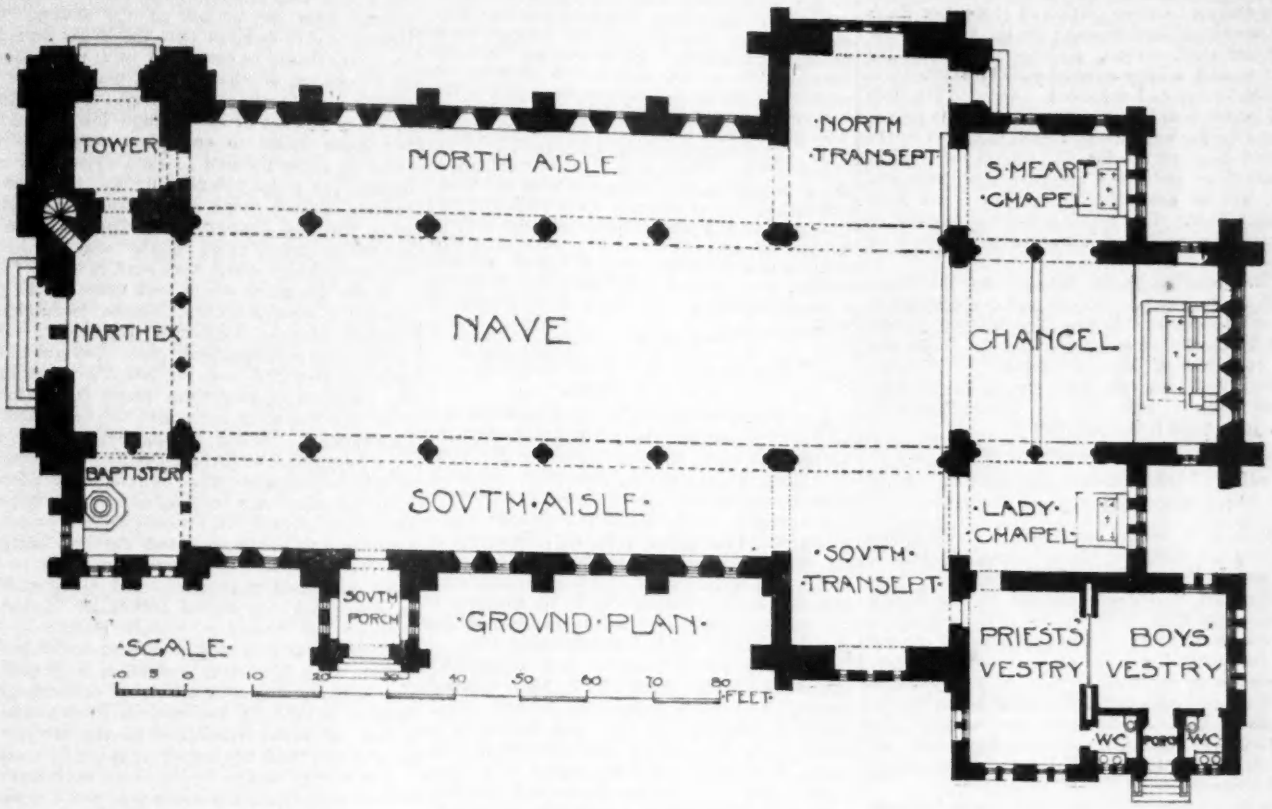


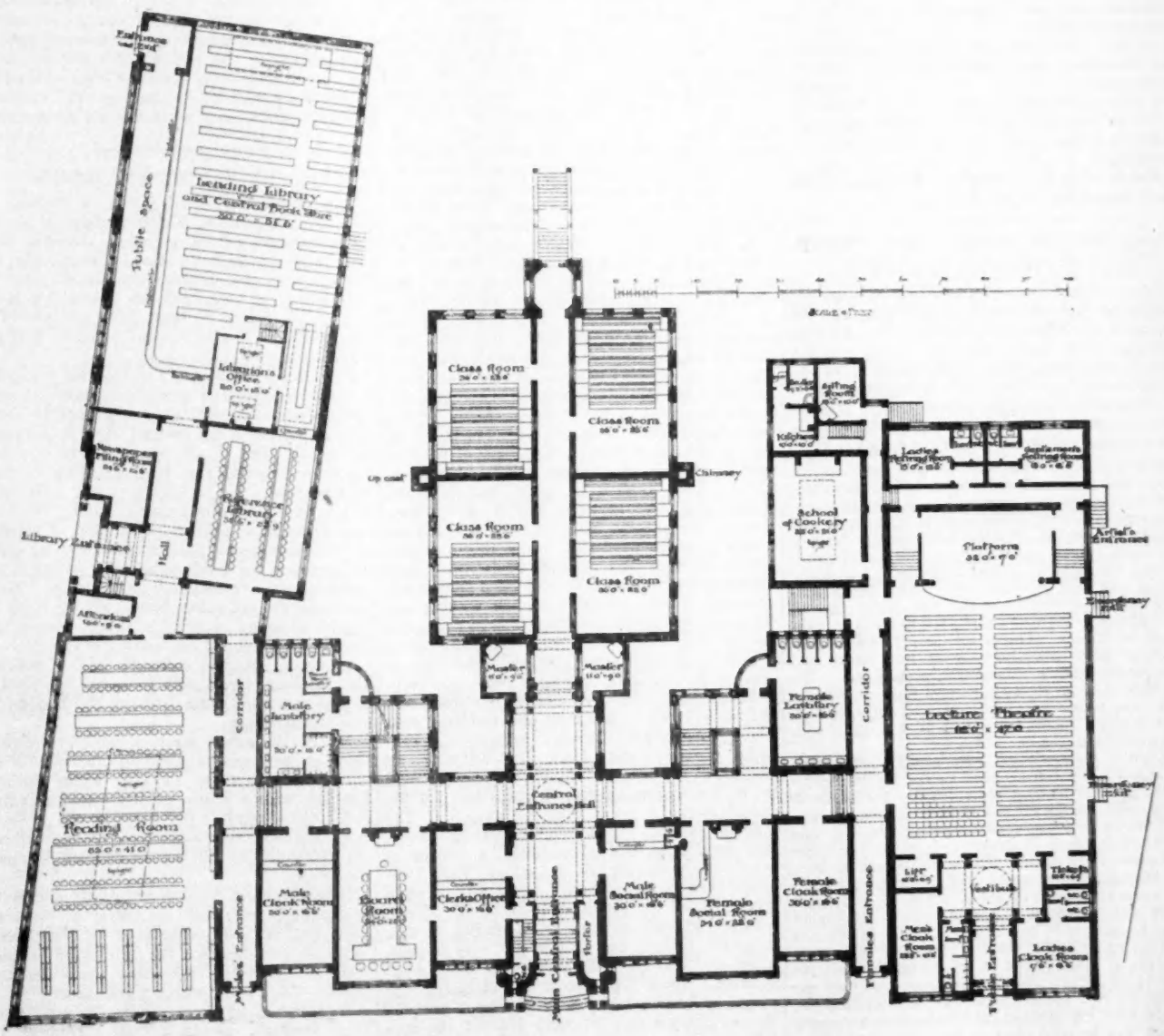
Church of St. Mary of the Rosary, Nenagh. Plan.



Competition Design for West Ham Technical Institute. Plan.



Church of St. Mary of the Rosary, Nenagh. Plan.



Competition Design for West Ham Technical Institute. Plan.

beingin St. Martin's street, W.C. the trade entrance in Whitcomb-street, and a short return elevation in Blue Cross-street. The whole of the basement floor and also a large portion of the upper floors will consist of stock rooms; on the ground floor will be stock rooms, packing rooms, waiting rooms, and a large covered yard in which goods will be loaded and unloaded. On the first floor will be the board room, directors' private rooms, offices for the staff, strong rooms, &c., and on the second-floor rooms for the editors of various publications and their clerks. Four hydraulic lifts will be available for carrying stock from floor to floor. The whole of the building will be warmed by means of hot-water and lighted by electricity.

The elevation to St. Martin's-street is being built of Portland-stone, the other elevations of Portland-stone and brick. The internal joinery will be chiefly of wainscot. All the floors and the roof are of Messrs. Homan & Rodgers' construction, the roof and the basement floor being covered with Val de Travers asphalte, Mr. John Cash is the architect.

DESIGN FOR PUBLIC LIBRARY AND BATHS FOR SHOREDITCH.

THIS is a design submitted for the Public Library and Baths in Pitfield-street, Shoreditch, by Messrs. Wigg, Oliver, & Hudson.

The area of the site allotted to the library being somewhat limited, the ground-floor is shown occupied by the rooms most in request by the general public, viz.:—Lending library, reading and magazine rooms, with a spacious vestibule and hall, useful for displaying advertisements. This arrangement necessitated the placing of librarian's room and boys' room on the first floor, along with the reference library and museum.

In the plan of baths an arrangement is shown for getting three entirely separate entrances and halls with only one pay-office in the limited frontage of Pitfield-street. As the first-class swimming bath was intended to be used in the winter as an entertainment hall, it is placed close up to the side street, with large entrance-halls and cloak-room accommodation, in addition to retiring-rooms for artists. A wide private passage-way is also shown along one end of the swimming baths, so that there would be no difficulty in complying with the County Council regulations as to ample exits.

The drawing here reproduced was hung in this year's Royal Academy Exhibition.

COMPETITION DESIGN FOR WEST HAM TECHNICAL INSTITUTE.

THIS was a design submitted by Mr. Clarence Coggin in the important competition for the West Ham Technical Institute, the drawing giving a view of the building, but without the plan, having been subsequently exhibited at the Royal Academy. The plan is here given also.

The general intention of the design may be best described in the following extracts from the architect's report sent with the design:—

Basement.—On this floor is provided: Bricklayer's and plasterer's shop, boiler house, coal store, plumber's shop, carpenter's shop, laundry, dynamo and engine house, dynamo store, chair store and lift (immediately in connexion with lecture theatre), still room (which communicates with social rooms above), strong room, placed conveniently for clerks' offices (together with the store, which has a staircase communicating direct with the clerks' office on ground floor), engineer's shop, lavatories, and electrical workshop. Under the library is the book-binding room and store room for books and pamphlets, and a librarian's water-closet. No officials need go through ground floor of library, but have their access to this part by a private way. The masters' rooms are placed in contiguity with the workshops. . . . .

Ground Floor.—The library is on the left, and so arranged that it can be used by the Institute or by itself, and has reading room, lending library, book store, reference room, and news-filing room, as also a librarian's office and attendants' room. The librarian is centrally placed, and he can easily see all parts. . . . On the right is the lecture theatre, so arranged that it can be used for outside purposes or (when necessary) by the Institute. It has ample exits and entrances, and is placed on the ground floor in order to be easy of access, and it has its own retiring rooms and performers' rooms with separate entrances. On the left of central entrance are the office and Board room, communicating, and on the right the two social rooms with lift to basement. Right and left of these departments are entrances which can be used the one for men and the other for women, and they have cloak rooms and lavatories immediately adjoining. . . . .

First Floor. — On this floor are the two lecture class-rooms so placed as to be easy of access to all departments. The masters' rooms are at the proper ends, with the preparation rooms directly communicating. There are also two class-rooms for use with the chemical laboratories or photographic studio. In an isolated block the chemical laboratories, physics and photographic studios are placed, and with no room over so that they can be thoroughly well lighted and ventilated. The balance room immediately adjoins the laboratories, and is isolated to avoid vibration. . . . .

Second Floor.—This floor is devoted entirely to the Art School, and it is all lighted from the north, and both top and side lighted. The windows would have movable and sliding blinds working upwards to lessen the light when necessary. The art school comprises elementary and advanced drawing studios, decorative art painting studio, modelling room, wood-carving room, school of design, and life class.

THE SANITARY INSPECTORS' ASSOCIATION.

THE December meeting of this Association was held on Saturday last, in the large room of the Carpenters' Hall, London Wall, Mr. W. West (Chairman of the Council) presiding. After the usual formal business, and the election of twenty-eight ordinary members and two associates, and of Mr. W. F. Higgins, J.P., &c., President of the Northamptonshire and adjoining counties branch, as honorary member, a vote of condolence with the family of the late Sir B. W. Richardson was unanimously passed on the motion of Mr. Hugh Alexander and Mr. Middleweek.

A paper on the "Influence of our Surroundings" was afterwards read by Mr. T. F. Strutt (Strand Board). Too much importance, he said, could not be attributed to the nature of the houses in which people lived, as the chief element in their surroundings. Our dwellings should be such as would secure to us those comforts which tended to produce healthful rest after the labours of the day. Sir B. W. Richardson once said to the members of the Sanitary Institute at a Newcastle Congress—"Cleanliness covers the whole field of sanitary labour; it is the beginning and the end; practised in its entirety, it would banish all disease from the world." The first condition of a healthy house was that it must stand on a healthy site. Exhalations arising from a damp undrained soil constituted a poison which produced fevers of the ague type, and houses built upon such sites conduced to phthisis. Dr. Buchanan, during his investigations into the effects of sanitary improvements in towns, found that where the sewerage of districts had led to the lowering of the subsoil water, the mortality decreased from 40 to 50 per cent. This had been notably demonstrated at Salisbury, Ely, and Rugby. The importance of a free circulation of air, of aspect as regards the sun, and of light, which should be introduced into every part of every room, were points touched upon in the paper. These favourable conditions were too often lacking in large towns, and this London of ours was a conspicuous example of the lack of wisdom with which it was planned, and of the ignorance of its builders. Many terrible lessons had been learnt by London in consequence of such ignorance, and some of the harrowing records of plagues and epidemics in London were referred to by the lecturer in the course of a brief historical sketch of London. Even at the present day, after all these terrible warnings, there were still to be found around London acres of land covered by dwellings built on refuse (even graveyards had been built over), and such dwellings were too often without any safeguards to protect the inmates from damp and ground air. Such neighbourhoods were never free from infection, and yet this making-up of ground for building purposes was still continually going on, and heavy mortality was the result, with concomitant and resultant evils worse than death—namely, permanent weakness, poverty, and destitution—affecting all sections of the people. No dwelling-house could be fit for human habitation which had not the advantage of a good drainage system. The modern system of thoroughly sealing sewers and drain-pipes had necessitated a system of ventilation with regard to which there was much conflict of opinion. There was a great difference in the extent of impurity in different sewers. In such as were self-cleansing, or were frequently flushed, the air was not very impure, while in others the emanations were most objectionable. Since the system of cleansing the streets by flushing with water had been adopted by the surveyor in the Strand District, the condition of the sewers had so much improved that complaints of bad smells from street ventilators were now very rare. The improvement was not caused by extra ventilation, but by the frequent flushing of the sewers, which more effectually cleared them of foul deposits than was done by the staff of men formerly employed to remove the deposit from the bottom of the sewers. The lecturer was of opinion that the house drain and the sewer should be combined in a single system of ventilation, which would of course mean the abolition of the interceptor-trap. There should be a free passage of air through the sewers and the house drains to an upcast ventilator terminating above the roof of each house. In conclusion, the paper summed up the remedies for existing defects thus: more surface ventilators, more frequent flushing, and the abolition of interceptor traps, every house assisting in the ventilation of the sewer it assisted to foul.

In the discussion which took place on the proposal of a vote of thanks, Messrs. Middleweek, Young, Munro, Lightfoot, Alexander, Dee, Barthe, and Addison, took part. Several of the speakers dissented from Mr. Strutt's views as to the abolition of interceptor traps, but admitted that there was much to be said on both sides of that question. It was pointed out that the by-laws were ample to prevent building on insanitary sites if properly enforced. If refuse was allowed to be deposited on a building site it was because the district officers of the London County Council were not doing their duty, and were not carrying out the by-laws. Reference was made to the success obtained in Battersea and in Shoreditch in compelling the school authorities to put in separate pan closets in schools instead of the earthenware or iron troughs known as the latrine system. Mr. Alexander stated that in Shoreditch they were carrying out a scheme of subsidising the furnaces in the neighbourhood of sewers so as to obtain the better ventilation of the sewers by turning into them the hot air from the furnaces.

The vote of thanks having been accorded and acknowledged, the Chairman announced a recent decision of the Council with regard to the proposed Superannuation Bill. They had come to the determination, as the best thing to do, to join with the Municipal Officers' Association and other bodies having similar aims, and to go unitedly to Parliament to get the measure passed. That portion of the Bill which concerned them more particularly—the tenure of office of sanitary inspectors—would be dropped for the moment, its consideration being adjourned for six months.

RECENT FLYING MACHINES.

THE problem of flying seems to possess an instinctive fascination, which perhaps is due to our admiration of the apparent freedom from effort with which birds travel through the air. Perhaps, also, the hitherto unattained, and the thirst for novel sensations has something to do with it. Be this as it may, there are few of us who would not like to try our hand at flying, if we could safely get the chance.

Mr. Hiram Maxim has a world-wide reputation as the inventor of the quick-firing machine guns bearing his name, and, like many another clever mechanician, he is not content to let his inventive faculties lie idle. For several years he has been experimenting with that form of flying machine which depends for its lifting power upon aeroplanes, or inclined flat surfaces, having much the same principle as a kite. This kind of machine at once recommends itself on the score of speed, but possesses the disadvantage of requiring a progressive motion to maintain its elevation. Flying machines, on the other hand, having large gas bags or balloons of suitable shape, possess continued buoyancy, but are lacking in speed.

Professor Langley, secretary of the Smithsonian Institute, seems also to have been working on very much the same lines as Mr. Maxim, but on a smaller scale.

Mr. Maxim's first machine carried a weight of about 40 lbs., and required an equivalent of one horse-power to carry 133 lbs., while Professor Langley, with a much smaller machine (4 lbs.), could carry 250 lbs. per horse-power. As the machines were very similar, this rather points to the unfavourable influence of increase in size on the results.

Both inventors employ screws to obtain the propelling power, and the thrust of the screw shaft was carefully determined by Mr. Maxim. With his small machine the best result obtained was a lifting power of fourteen times the screw thrust—viz., 42 lbs. with a 3 lbs. thrust.

Encouraged by these results, he built a very large machine, having a total spread of over 100 ft., worked by specially-designed steam-engines of extreme lightness and 362 actual horse-power. With such a machine it naturally became

necessary to introduce stays and frames in almost every direction, which, as might be expected, greatly increased the air resistance. This, no doubt, accounts for the reduction in lifting power to only five times the screw thrust, which, being 2,200 lbs., produced a lift of 11,000 lbs. at a speed of forty-five miles per hour. As the dead weight came to about 8,000 lbs., the available carrying power, even at this high speed, is not great.

A difficulty in practice arises with such machines in attaining a sufficient progressive speed to obtain the necessary lifting power to rise off the ground, even on a calm day, and again, to land safely on the ground after flight, at a speed of, say, twenty miles per hour, without accident and total wreckage of the apparatus. Were it not for these two troubles and the action of the wind on the aeroplanes or wings, flying would be comparatively simple, but until an apparatus is devised which can run along an ordinary field and rise off the ground in a moderate distance, and alight again on an uneven surface and instantly furl its wings so as to be practically unaffected by wind, we venture to think that this form of machine, which Professor Langley and Mr. Maxim have been at work upon, has not yet come within the range of practical utility.

ARCHÆOLOGICAL SOCIETIES.

SOCIETY OF ANTIQUARIES.—On the 3rd inst. a meeting of the Society of Antiquaries was held, Mr. A. W. Franks in the chair. The Secretary read the correspondence which had passed between the Society and the Dean and Chapter of Peterborough since the last meeting. In reply to the Society's resolution, an answer had been received that it should be submitted to the Restoration Committee. It had been arranged, however, that the Dean and Chapter would receive a deputation from the Society, and it was arranged that Sir Henry Howorth, Sir Charles Robinson, Mr. Micklethwaite and Mr. Hope should form the deputation. Mr. Philip Webb, who was present, at the request of the President, explained his scheme for dealing with the upper portion of the front behind the arches. Mr. Oldfield then resumed his observations on the sculptures of the Mausoleum by referring to a theory lately advanced by Professor Percy Gardner and some other writers, that the semi-colossal statues of Mausolus and Artemisia did not occupy the quadriga on the summit of the building. After separately stating each of Mr. Gardner's arguments for this theory, he replied to all of them in order; and then explained the whole quadriga group as representing the passage of Mausolus and his wife into Elysium, so that their presence in the chariot was indispensable to make its meaning intelligible. He suggested, however, the possibility that the two figures had been originally designed for a different position, probably somewhere in the Pteron; but that, when it was resolved to crown the monument with such a group, Pythis, the head artist, appropriated these figures as the best available representation of the deceased pair for the quadriga above. In replying to Mr. Oldfield's criticisms, Professor Gardner objected that Mr. Oldfield had assumed the position of the sculptures in the chariot to be certain in the absence of conclusive objection. The case was rather one of balance of probability; and as Mr. Oldfield allowed some validity to several of the arguments he had criticised, their weight really overbalanced the very slight probabilities on the other side. Professor Gardner principally relied on the argument derived from the disproportionate smallness of the figures of Mansolus and Artemisia, as compared with the chariot horses—a proportion not allowable in the Attic school of art, to which the Mausoleum sculptures belong.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—The third meeting of the session of this Association was held on the 2nd inst. at the Rooms in Sackville-street, Mr. Thos. Blashill, Hon. Treasurer, in the chair. Mrs. Marshall exhibited a silver sixpence of the reign of Elizabeth. Mrs. Collier submitted two interesting terra-cotta figures from Egypt, one supposed to represent "Thoth." Mr. Earle Way exhibited a collection of silver thimbles, dating from the seventeenth century, found in Southwark, and reminded the meeting that thimbles were originally called "thumb bells" by the sailors who used them in sailmaking, and on Old London Bridge there was a shop specially for the sale of them. Mr. Way also exhibited the following articles:—A silver coin of James I., one of a collection of about 2,000 coins ranging from Elizabeth to Charles I., recently discovered in Devon; a very beautiful alabaster vase or bottle, called a "box," found at Thebes by Professor Petrie, of the date of about 3000 B.C., and supposed to be similar to the Scriptural "alabaster box of precious ointment;" also a Roman lamp, having Greek characters on the under side, from the collection of the late Mr. E. P. Loftus Brock, F.S.A. The Rev. J. Cave-Browne read a paper upon the "Fraternity of Corpus Christi at Maidstone." The buildings of the Fraternity, which still exist, were visited by the Association during the recent Congress. The "Guild of Corpus Christi" was constituted by Pope Urban IV. in 1261, and was confirmed by Pope John XXII. in 1318, and was under the Benedictine rule. The establishment of guilds or brotherhoods in England dates from a very early period; they were formed for the protection of some trade or industry, and the general interest of their members, and the provision of pecuniary assistance in time of need. The Guild of Corpus Christi, however, differed from these in having more of an ecclesiastical, if not strictly religious, character. The first Thursday after Trinity Sunday was the day fixed for the observance of the festival. The "Fraternity of Corpus Christi of Maidstone" was in existence in the early part of the fifteenth century, as there is extant a will of one Richard William, which was proved in the year 1438, containing a bequest to the Brethren of Corpus Christi of 10 shillings, equivalent to as many pounds sterling of our money. The old Hall or Refectory of the Fraternity still remains, and retains its original proportions, and much of its original character. Mr. Patrick, in the absence of the author, read Mr. Park Harrison's paper on "English Romanesque Architecture," which dealt with the pre-Norman date of the two churches at Lincoln, respectively, St. Peter's at Gowts and St. Mary-le-Wigford. The paper elicited considerable discussion, in which Mr. Chas. Lynam, Mr. Compton, Mr. Patrick, and the Chairman took part.

SOCIETY OF ANTIQUARIES OF SCOTLAND.—The annual general meeting of this Society was held in their library at the National Museum of Antiquities, Queen-street, Edinburgh, on the 30th ult., Dr. James Macdonald, vice-president, in the chair. The office-bearers for the ensuing year were elected. The new President is the Marquis of Lothian. It appeared from the annual report to the Board of Trustees that the number of objects of antiquity added to the Museum during the year has been 613 by donation and 428 by purchase, while 179 volumes of books or pamphlets have been added to the library by donation and 82 by purchase, and the binding of upwards of 200 volumes has been completed. Among the more important of the donations to the Museum are the large collection of objects obtained during the excavation by the Society of the Roman station of Birrens, in Annandale, including several altars and inscribed tablets, presented with the consent of his Grace the Duke of Buccleuch; a series of casts and moulds of the sculptured stones of Islay, presented by Mr. R. C. Graham, F.S.A., Scot.; a carved slab with the arms of William Erle of Gowrie (1587), "from the old Gowrie House," Perth, presented by Lord Ruthven; and a series of pottery vessels from the graves of "the new race," recently discovered in Upper Egypt by Professor W. Flinders Petrie.

ARCHITECTURAL SOCIETIES.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.—The monthly meeting of this Society was held on the 8th inst., when a paper on "The Structure and Durability of Building Stones and Bricks" was read by Dr. H. C. Sorby, F.R.S., F.S.A., one of the honorary members of the Society, who observed that from the excellence of Roman work more attention seemed to have been paid to the question formerly than now. Describing the causes which lead to the decomposition of a stone, Dr. Sorby showed in lantern slides a number of sections of rocks. About four years ago he had made many experiments to determine the relative value of the internal microscopical cavities of stones, and found that a relatively large number of cavities seemed to lead to a more rapid breaking up by the repeated freezing of absorbed water. There were so many peculiarities in stones that no better plan could be found than that recommended by Vitruvius 1900 years ago—to expose the stone to the weather through a winter and summer, and reject all that showed any sign of change; but this would not suit cheap builders. In regard to brick, again, the Romans tempered their clay for three or five years, while modern bricks were often made from clay that had not been tempered at all; thus the soluble salts were included in the bricks and broke them up by efflorescence and by destroying the cohesion. The result was seen in Cambridge, where the oldest bricks were in good condition, while the modern ones were often much decomposed.—Professor Ripper then read a report on a number of tests of bricks made at the request of the Council. The tabulated results were very elaborate, but we are able to give the following extract from them:—

	Mean crushing strength, tons per sq. foot.	Weight of cubic foot in lbs., average of two.	Height of a building in feet to crush lowest bricks.
London stocks	101·8	90·6	2,516
Gault	153·1	98·2	3,492
Leicester red	307·7	118·2	5,830
Worcestershire blue	398·6	135·3	—
Fletton	103·6	99·35	2,336
Sheffield stocks.....	155·6	122·5	3,606
Do. stocks.....	168·6	120·6	3,131
Do. stocks.....	257·3	137·2	4,209

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.—The ordinary monthly meeting of the Royal Institute of the Architects of Ireland was held on the 30th ult., Mr. T. Drew, R.H.A., President, in the chair. On the ballot papers being opened, the following were announced duly elected as members, viz.:—R. M. Butler, J. H. Lundy, G. P. Sheridan, F. Hayes, and V. Haghe. The annual general meeting was fixed for the 17th inst., at the Rooms, 37, Dawson-street, the annual dinner to be held afterwards at the Central Hotel.

ENGINEERING SOCIETIES.

THE INSTITUTION OF CIVIL ENGINEERS.—At the ordinary meeting of this Institution, on Tuesday, Mr. John Wolfe Barry, C.B., F.R.S., the President, in the chair, two papers, dealing with the treatment of coal at the surface of the pits, were read. The first communication, on "Screening and Tipping Coal," by Mr. James Rigg, embodied an account of the various forms of screening and tipping machinery employed in recent practice. The second paper, by Mr. Thos. Gillott, M.Inst.C.E., was devoted to a description of "The Surface-Plant at Kirkby Colliery."

SOCIETY OF ENGINEERS.—At the meeting held at the Royal United Service Institution on Monday last, a paper was read by Mr. George Thudichum on "The Ultimate Purification of Sewage." The object of the paper was to meet the numerous inquiries recently made by Local Authorities regarding the biological filtration method of sewage purification, and to compare this method with treatment by land irrigation. During the past twelve years, work in this direction has been carried out by the Metropolitan Board of Works and the London County Council. It was shown by Mr. Dibdin that any process adopted for the purification of sewage must be subordinated to the requirements of the micro-organisms. The author showed that sterilisation was a mistake, since as soon as antiseptic action was neutralised by dilution, putrefaction was set up. Efforts should therefore be directed towards fostering one class of organisms. Later, it was established that direct oxidation, by contact with air, could not be induced in the absence of microbes; previously sterilised sewage could be aerated for any length of time with air passed through a red-hot tube without exhibiting any change. When unsterilised air was admitted, oxidation accompanied by putrefaction immediately took place. An attempt to hasten decomposition by adding micro-organisms to sewage failed, in so far as producing oxidation without putrefaction was concerned. The general experience of the author was that all sewage effluents produced by chemical means were finally purified only by a putrefactive process, unless artificially aided. The impossibility of effecting the ultimate purification of sewage by chemical means led to the general adoption of sewage farms. Irrigation farms had, however, proved unsatisfactory as a whole, as evidenced by the numerous attempts to produce a better method. Amongst these attempts filters of various kinds were very prominent. The quantity that could be treated in this way did not, however, exceed 60,000 gallons per acre per diem. At this point the Main Drainage Committee of the London County Council took up the question, to ascertain whether work on the biological lines already established could not be extended so as to be of practical use. The final result was the successful treatment of 1,000,000 gallons per acre per diem. The special conditions needed were found to be properly adjusted

alternate supplies of food and air to the organisms in the body of the filter. The oxidisable organic matter present was reduced on an average by 80 per cent. The depth of the filter must not be taken as a necessary factor in its efficiency; recent records tended to show that cubic contents and not surface should be considered, as the work was all done in the body of the filter. The depth possible was probably only limited by the necessity for free air supply. The conditions militating against the success of an irrigation farm were then pointed out. The power of control was wanting; the farm was dependent upon seasons; the period of contact of the sewage with the land was variable, &c. In the artificial filter all necessary conditions were fully under control, and no climatic influences affected the result; it could be easily restored, possessing in itself the power of recuperation. Where farms already existed, the filter system should also be adopted, and the filtrate applied to the land only when benefit would be derived from its use.

APPLICATIONS UNDER THE 1894 LONDON BUILDING ACT.

AT the meeting of the London County Council on Tuesday last the Building Act Committee reported that they had considered the undermentioned applications under the London Building Act, 1894, and had arrived at the following decisions. Those applications which have been agreed to are granted on certain conditions:—

Lines of Frontage.

Wandsworth.—That consent be not given to the erection of one-story shops in front of Nos. 1 and 2, Newman-terrace, Merton-road, Lower Tooting, on the application of Messrs. Turtle and Appleton, on behalf of Mr. J. J. Newman.

Bow and Bromley.—That consent be given to the erection of a porter's office upon part of the forecourt of the Infirmary, Bow-road, Poplar, on the application of Mr. F. Hammond, on behalf of the Guardians of the City of London Union.

Woolwich.—That no order be made with respect to the application of Mr. A. H. Kersey for the consent of the Council to the erection of a house with bay window, to be known as No. 12, Piedmont-road, Plumstead, with the flank of the building next Congo-road.

Chelsea.—That the consent of October 27, 1896, to the erection of a zinc and iron covered way upon part of the forecourt of No. 24, Cheyne-walk, on the application of Messrs. J. Rossiter & Son on behalf of Mrs. F. Applewaite-Abbott, be modified by the substitution of the word "glass" for the word "zinc" in the said consent.

Clapham.—That consent be not given to the erection of a one-story shop on a portion of the forecourt of No. 113, Lavender-hill, on the application of Messrs. Meakin & Archer, on behalf of Mr. D. Olding.

Hackney, South.—That consent be given to the erection of eleven houses on the north side of Millfields-road (formerly Pond-lane), with a shop to the easternmost house, and of a house at the south-east corner of Chailey-street to flank upon Millfields-road, on the further application of Messrs. J. H. & H. E. Jones, on behalf of Mr. R. A. Chillingworth.

Hammersmith.—That consent be not given to the erection of a one-story shop on the forecourt of No. 292, King-street West, on the application of Mr. A. M. Naylor.

Hampstead.—That consent be given to the erection of a new administrative block of buildings at the Hampstead Baths, Finchley-road, on the application of Messrs. Spalding & Cross, on behalf of the Hampstead Vestry.

Holborn.—That consent be given to the erection of an open porch and two one-story bay windows in front of No. 39, Bedford-square, St. Giles-in-the-Fields, on the application of Mr. C. Fitzroy Doll, on behalf of the Duke of Bedford.

Islington, North.—That consent be not given to a block of residential flats in course of erection on the east side of Dartmouth Park-hill, and abutting upon Cathcart Hill, on the further application of Mr. W. F. Cave.

Kennington.—That consent be not given to the erection of three houses with shops on the north side of Dorset-road, at the rear of Nos. 120 and 122, Clapham-road, on the application of Mr. A. W. Tribe, on behalf of Dr. W. H. P. Fox.

Lewisham.—That consent be not given to the erection of a house on the west side of Schuckburg-road, Catford, flanking upon The Retreat, on the application of Messrs. Johnson & Aldridge.

Lewisham.—That consent be not given to the erection of a two-story house on the west side of Ladywell-road, Brockley, to flank upon Merritt-road, on the application of Mr. J. W. Webb.

Lewisham.—That consent be given to the erection of two houses at the western end of Micheldever-road, to flank upon Wantage-road, Lee, on the application of Mr. W. Stair, on behalf of Messrs. Hill & Tyler.

Marylebone, East.—That consent be given to the erection of a covered way on part of the forecourt of No. 59, Avenue-road, St. John's Wood, on the application of Mr. C. C. Dormer.

Strand.—That consent be not given to a shelter partially erected in front of the Vaudeville Theatre, No. 404, Strand, St. Martin-in-the-Fields, on the application of Messrs. Hampton & Sons, on behalf of Messrs. A. & S. Gatti.

Width of Way.

Clapham.—That consent be given to the erection of an addition to the Public Library, Lavender Hill, Battersea, at less than the prescribed distance from the centre of Green-lane, on the application of Mr. W. Marcus Wilkins, on behalf of the Vestry of Battersea.

Hackney, Central.—That consent be not given to the erection of a one-story cart-shed in the yard at the rear of Nos. 292 and 294, Mare-street, to abut upon Morning-lane, on the application of Mr. W. S. Harris.

Chelsea.—That consent be not given to the erection of an addition at the rear of the Enterprise public-house, No. 35, Walton-street, to abut upon First-street, on the application of Messrs. F. J. Eedle and Meyers, on behalf of Mr. T. H. Watts.

Limehouse.—That consent be given to the erection of a one-story shop with a facia over a portion of the yard at the rear of Nos. 652 and 654, Commercial-road, to abut upon Three Colt-street, on the further application of Mr. P. H. Adams, on behalf of Mr. R. George.

Lewisham.†—That consent be not given to the widening of a portion of Rhyme-road, Avenue-road, on the application of Mr. J. Norton, on behalf of Mr. E. MacF. Patterson.

Width of Way and Cubical Extent.

Southwark, West.—That the Council, in the exercise of its powers under Sections 13, 76, and 82 of the London Building Act, 1894, do consent to and approve of the erection at the Borough Market, Cathedral-street, and Winchester-street, of new covered stands and a flower market, each to exceed in extent 250,000 but not 450,000 cubic feet, and to be used only for the purposes of the trade of such market, on the application of Messrs. H. Jarvis & Son on behalf of the trustees of the market.

Line of Fronts, and Width of Way.

Marylebone, East.—That consent be not given to the erection of an iron and glass roof over a portion of Duke's-mews, Lisson-grove, on the application of Messrs. Wylson & Long, on behalf of Messrs. Spencer, Turner, & Boldero; as the proposed roofing would unite buildings which taken together would exceed in extent 250,000 cubic feet, and it is considered inexpedient to permit its erection over the public way unless with the concurrence of the local authority, which in this case objects.

St. Pancras, South.—That consent be given to the erection of an iron and glass roof in front of ten stable buildings on the east side of Warren-mews, Warren-street, on the application of Mr. W. Woodward, on behalf of Messrs. Maple & Co.

Southwark, West.†—That consent be given to the erection of a timber and iron landing-stage in the yard in front of Vestey's wharf, Upper Ground-street, Blackfriars, with the forecourt boundary at less than the prescribed distance from the centre of the roadway, on the application of Mr. A. W. Osborn, on behalf of Messrs. Vestey Brothers.

Open Spaces about Buildings.

Rotherhithe.—That the Council, in the exercise of its powers under Section 41 (1) (vi.) of the London Building Act, 1894, do not allow a modification of the provisions of that section with regard to open spaces about buildings, so far as relates to the proposed erection of three three-story houses, with shops, on the east side of Bush-road, Deptford, at the corner of Rotherhithe New-road, and adjoining the "Red Lion" public-house, Lower-road, with an irregular space at the rear of each of the new houses, on the application of Mr. G. Legg, on behalf of Messrs. Watney & Co.

Formation of Streets.

Woolwich.—That an order be sealed and issued to Mr. H. H. Church, sanctioning the formation or laying out of a street, 40 ft. wide, for carriage traffic, in continuation of Kirk-lane, Plumstead Common-road, Plumstead, and the widening of a portion of Plum-lane, on his application to the Council on behalf of Mr. J. R. Jolly. That the name Kirk-lane (in continuation) be approved for the new street.

Woolwich.—That an order be sealed and issued to Mr. E. W. Hodgkinson, sanctioning the formation or laying out of a street, 40 ft. wide, for carriage traffic, as an extension of Blunt's-road, High-street, Eltham, on his application to the Council on behalf of the Eltham Charities. That the name Blunt's-road (in continuation) be approved for the new street.

Artisans' Dwellings.

Westminster.—That the Council do, in the exercise of its powers under Section 42 of the London Building Act, 1894, disapprove and refuse to sanction the modified plans and drawing, dated November 13, 1896, delivered by Mr. E. Dru-Drury, on behalf of Mr. James Ludford, for the construction of a two-story house to be inhabited by persons of the working-class, at the rear of Nos. 41 and 43, Tufton-street.

Cubical Extent.

Southwark, West.—That the Council, in the exercise of its powers under Sections 76 and 82 of the London Building Act, 1894, do consent to and approve of the erection and construction of an addition to the Borough Market, to abut upon Stoney-street, to exceed in extent 250,000 but not 450,000 cubic feet, and to be used only for the purposes of the trade of such market, on the application of Mr. A. T. Walmisley.

Recommendations marked † are contrary to the views of the Local Authorities.

Correspondence.

To the Editor of THE BUILDER.

ROOF CHAMBERS IN CHURCHES.

SIR,—It is rather strange that the writer of the article on "Structures over the East Ends of Some English Churches" in last week's *Builder* should have omitted to mention the important example known as St. Michael's Loft, at Christchurch, Hampshire, where it constitutes, in fact, a second story to the building at this part, having six large square-headed windows (in the wall) on each side, as well as one at the east end. It is a very prominent feature in all views of Christchurch, owing to its standing up somewhat above the level of the roof of the choir, the original high-pitched roof of the latter having at some time been removed and a flat one substituted. The building is well shown in the drawings of Christchurch published in the *Builder* of July 25, 1891. Its date is about 1400.

H. E. THOMPSON.

SIR,—I would be allowed to add my testimony to the interest, industry, and ability in historical architecture shown by the late Secretary of the Institute, bearing materially upon this very question—of the origin and use of the large chambers found in the roofs of so many churches. Herein I refer to his extensive supplemental notes to my paper on the "Galilee of Durham Cathedral," which are well worth a careful study ("Transactions," vol. vi., New Series, 1890). Then there is the remarkable chamber over the vaulting of the Cathedral of Wisby, in Gothland, of which I gave a description, with a section, in my paper on this interesting place. Locally this is considered to have been erected for a sort of "council chamber." It adds very materially to the height and dignity of the exterior of the cathedral.

WILLIAM WHITE, F.S.A.

GARDEN DESIGN.

SIR,—I find the following at the beginning of Mr. F. I. Thomas's lecture at the Architectural Association:—

"Fashions have come and gone in gardens as in everything else, and until lately, for well nigh a century, it has been the fashion to dispense with a garden altogether. That is to say, the substitute that has usurped its place is what, in a better period, would have been called a wilderness."

There is not a county in England in which one could not prove from existing gardens that this is a complete misstatement, the opposite being the truth, that the gardens of our own century are "hard" and ugly to a degree which drives the artist out of them.

It is untrue to say that the garden of our own time is a wilderness; many of the primmest and "hardest" gardens were made in our own century; as, for example, Crewe Hall, Whitley Court, Windsor, Osborne, Paxton's extravagance at the Crystal Palace, Sir Charles Barry's at Shrubland Park, and Nesfield's at South Kensington. The only "wilderness" to be seen in these places is one of stone out of place. The good old houses had not anything of the kind, the walls about them having some relation to human use or need, as at Rockingham, Haddon, Sutton, Ightham Mote, Powis and Berkeley, whereas the modern stone garden is often only a "built" drawing. W. ROBINSON.

The "Garden" Office, December 4.

OVER-SANDED MORTAR.

SIR,—Will you, as a favour, tell me of any reliable practical test you know of to tell mortar or cement that has been *over-sanded* by a contractor? If you can tell me of a chemical test as well, if it will not encroach too much on your space, I will feel much obliged to you. J. B.

*** By the term "over-sanded" we understand that a greater amount of sand than is allowed by the specification is used; also, that sharp, silicious sand is intended. Have some thin sections cut for examination by the micrometer in polarised light. The microscope will then enable you to detect the sand grains, and the micrometer will assist in determining the proportion of sand grains present; or, reduce a known bulk of the material to fine powder, and separate the sand by means of specific gravity solutions. This method is a rough one, because a

certain proportion of lime or cement clings to the sand grains; or to submit the sample so reduced to the action of, say, a weak solution of hydrochloric acid, and estimate the bulk of the residuum. This, also, is not a satisfactory method, as a proportion of clay in the cement will remain, and some of the sand, unless very pure, will be attached. For greatest accuracy and simplicity we should prefer the method by means of the microscope first alluded to. —ED.

The Student's Column.

RURAL DRAINAGE.—XXIV.

AMONGST the multitude of chemical re-agents which have been used or suggested for the treatment of sewage only a very few are practically suitable for rural work, and the selection ultimately becomes almost a "Hobson's choice." The only field, therefore, for the adventurous patentee is the form and action of the precipitating tank. The innumerable forms to which the various engineers and promoters of drainage schemes have pledged themselves have already been referred to and the number is still increasing. The practical object in inventing a new process is thus shrewdly stated in a contemporary: "The great art of carrying through an invention is to imitate your neighbour's, and, making such modifications as may, in the eyes of the law, be sufficient to warrant your manufacturing without your neighbour being able to interfere with you" (*The Quarry*, December, 1896, p. 243). A correspondence has recently appeared in the pages of the *Surveyor* between Mr. Albert Wollheim, the patentee of the "Radial Flow" Precipitation Tanks, and Mr. J. E. Parker, of Lanchester, who designed the precipitation tanks at Croniwell, and for which he claims originality. Mr. Parker described the Croniwell tanks in a paper intended to have been read at the Sanitary Congress at Newcastle, 1896.

A careful consideration of the published diagrams of the "Radial Flow" and Croniwell tanks, however, leads to the conclusion that there is little important difference between them.

A good deal has recently been heard, especially in the Midlands, of the "Universal" system of sewage disposal, introduced under the "Ives'" patents. The characteristics of this system are the form of tank and the method of its employment. The tank is circular on plan, with a conical base, and the flow of sewage through it is in an upward direction. The following is extracted from a printed description of the system issued by the "Universal" Sewage Purification Company:—"Owing to the great success of the 'Ives' Tank, certain interested persons, and also some private engineers, have, for obvious reasons, been doing their utmost to prejudice the minds of the public against it, by (erroneously) stating that it is simply a revival of the so-called 'Dortmund' tank, and we readily admit that in external shape there is a similarity between the two tanks; but there the similarity ends." The above extract is emphasised (?) with italics, but they are omitted here for obvious reasons.

With regard to the admission that in external shape there is a similarity between the "Ives'" patent upward-flow tank and the "Dortmund" tank, but that "there the similarity ends," a comparison between the description of the former process issued by the "Universal" Sewage Purification Company and a description of the latter by Mr. W. Santo Crimp is of interest.

"The sewage, waste, or foul water enters a chemical chamber, detritus sump, and storm overflow combined, thence into a circular screening chamber. The screening chamber also acts as a safety-valve to the precipitating tank, and prevents the upsetting of the contents of the same during storms by distributing the suspended matter; it is also provided with a storm-overflow. The sewage entering the screening chamber at a tangent to the outer wall, gyrates round and round, forming a whirlpool, whirling the floating solids, such as excreta, paper, &c., usually found in sewage, against bafflers, by which they are broken up and brought into suspension fit for chemical treatment. The chemically-treated sewage gravitates through a pipe into the mixing and chemical race where, in the sump, additional chemicals can be added if required.

After the sewage passes along the mixing race it falls into a sump, then into the inlet pipe or pipes to the precipitating tank at its centre; it is then distributed by the distributing arms, and rises in the tank, the solids in suspension, and brought into suspension by means of chemicals, falling into the sludge sump. The sewage entering the tank, as described, has to pass through these solids, thus filtering itself, and, passing upwards, flows through the overflow arms, and out at the effluent outlet to the land, brook, river, or canal, as may be desirable. The precipitated sludge falls into the sludge sump, and is extracted by means of pumps or syphoning through the cone suction; this cone ensures the uniform and regular extraction of all precipitated sludge from the bottom of the sludge sump and the sides of the same by the sludge suction-pipe. The sludge can be carted away, or run into lagoons upon the land, and ultimately worked into the same."

The type of tank as designed by Herr Carl Kniebühler, and at use at Dortmund, is thus described by Mr. W. Santo Crimp on the authority of Mr. Emil Knickling, M.Am.Soc.C.E. (Sewage Disposal Works, p. 62):—"The tank is of considerable depth, and it is circular on plan. The sewage, after treatment with chemicals, is conveyed to a large tube fixed vertically in the centre of the tank, down which it passes until, on arriving at the "distributor," it commences its upward course, but at a very low velocity. The heavier particles of suspended matter at once fall to the bottom, whilst the lighter are carried some distance upwards, forming a kind of floating filter; these particles of floating matters constantly aggregate together and eventually fall to the bottom also; the clarified water overflows at the top, and is conveyed to the river. A small pipe passes down the central tube to near the bottom of the tank, and, being connected with a pump, the sludge is removed as soon as formed."

Mr. Santo Crimp goes on to say that "Tanks designed on this principle are much in advance, as regards scientific design, of the English tanks; but there are certain difficulties with regard to the removal of the sludge, and in practice the results are not so good as might be anticipated.

The chief advantages appear to the author to consist in (*a*) small area of ground required for tanks, (*b*) more equable velocity of sewage through the tank and better clarification, (*c*) less tank capacity is required, as each tank may be in continuous use."

Generally speaking, it seems to be a great pity that engineers should pledge themselves to particular processes, thus sacrificing their independence and prostituting their profession. The picture of the unsuspecting Local Authority seeking for advice as to the disposal of its sewage is, indeed, a sad one.

"Septic" System of Sewage Disposal.

Considerable interest is being taken in a novel system of sewage treatment in operation at Exeter, and which has already been referred to in the columns of the *Builder* (June 6, 1896). The process is said to have taken its origin from observations made by Mr. Donald Cameron, the City Surveyor of Exeter, upon the behaviour of the sewage in the city sewers. The rationale of the process is stated as follows:—

"The primary object of the system is to throw the whole of the solids in suspension in sewage into solution, so as to render it easily dealt with by filtration or irrigation, and at the same time to put it in such a condition that it will not be offensive to the senses nor be subject to any after fermentation."

The process was in the first instance tried experimentally with a small portion only of the Exeter sewage, but on August 25, 1896, a new installation was set to work dealing with the whole of the St. Leonard's portion of the Exeter sewage. The sewage dealt with between that date and October 9, 1896, amounted to 2,150,880 gallons, which is at the rate of about 48,000 gallons per day.

The following description of the process is reproduced from the notice in the *Builder* above referred to, which was written after a personal inspection:—

"The process is extremely simple, not entailing any chemical treatment, and consists in allowing the crude sewage to pass slowly through a tank from which light and air are excluded, the inlet and outlet being so arranged as to keep the upper portion of the contents undisturbed. As a result of this arrangement, a thick scum is formed upon the surface of the liquid in the tank, which constitutes a nidus for the generation of liquefying bacteria which attack the organic matters in suspension and render them soluble. The effluent from the 'septic tank' discharges on to a filter consisting principally of coke breeze, where the process of purification is carried on by nitrifying bacteria, which convert the organic matter in solution into nitric and carbonic acid. Here the tank effluent accumulates until the chamber containing the filtering material is full, when, by means of an ingenious automatic contrivance, the chamber is discharged and the tank effluent diverted on to another filter.

The effluent from the filter is remarkably bright and free from odour, and, judging by the analyses submitted to us, leaves nothing to be desired. Green growth was noticeable at the point where the effluent discharged into the river.

The 'septic tank' itself appears to be a successful modification of the method devised by Mr. Scott Moncrieff.

The system seems to have been tried upon experimental lines and with sewage of a domestic character, so that its capacity of dealing with a variable flow, including heterogeneous trade effluents, remains still to be proved."

When the experimental tank above described was opened after the permanent works were started, on August 25, 1896, the scum had disappeared from the surface and subsided. Its average depth was under 4 in. and the quantity was equivalent to about three tons, or about 5 per cent. of the amount which, according to the City Surveyor, would have resulted from the use of precipitants in the ordinary way.

The process appears to have been most successful with the conditions under which it has been tried, and it seems to be peculiarly suited to the requirements of rural districts.

OBITUARY.

MR. D. C. HALE.—Mr. David C. Hale, an architect, of Boston, Massachusetts, who died on November 10 at Ellsworth, Me., was a graduate of the Massachusetts Institute of Technology. On leaving the Institute he entered the office of the late H. H. Richardson. While in the employ of Mr. Richardson he was his representative in Albany during the construction of the New York State Capitol. He held that responsible position until the death of Mr. Richardson, after which he entered the office of Shepley, Rutan, & Coolidge, the successors of Mr. Richardson. He superintended for them the building of the Chamber of Commerce at Cincinnati. During the last five years Mr. Hale was at the head of the office of Shepley, Rutan, & Coolidge in Boston, and during this time had under his charge the drawings for the Ames Building, the Boston Chamber of Commerce, and many other important structures.—*Engineering Record.*

GENERAL BUILDING NEWS.

FREE LIBRARY, NUNHEAD.—The new Public Library in Gordon-road, Nunhead, was opened on the 1st inst. by Mrs. Matthew Wallace. The building is situated at the south end of Gordon-road, close to Nunhead-green, and has a frontage of about 120 ft., with a depth of 60 ft., and contains news and magazine rooms, and a lending department, with shelf space for 13,000 volumes. The architect is Mr. R. P. Whellock, and the total cost of the building has been a little over 2,500*l.*

BLACKPOOL BUILDING TRADE.—During the year, plans for 1,222 new houses, 115 shops, thirteen warehouses, eighteen storerooms, twenty-nine workshops, and thirty-eight estates have been approved at Blackpool. The thirty-eight estate plans referred to mean that ten and a half miles of new streets have been sanctioned. There are at present 688 dwelling houses in course of erection.

NATIONAL SCHOOLS, BURSLEM.—The Bishop of Lichfield dedicated recently the new National Schools erected in connexion with the Parish Church, Burslem. The new premises, which have been erected from the plans of Messrs. A. R. Wood & G. L. Jones, by Mr. W. Cooke, have cost 4,500*l.* Accommodation is provided for 708—250 in the boys' department, 250 in the girls', and 208 infants. The lower story has been arranged with a view to its being utilised as class-rooms, or as a parochial hall.

ADDITIONS TO CHRIST CHURCH SCHOOLS, BRADFORD.—On the 30th ult. the extended portion of Christ Church Schools, Simes-street, was opened. The caretaker's house has been removed, together with three condemned class-rooms and other portions. In their place a central hall has been constructed and also three cloak-rooms and a committee-room. In addition to these structural alterations—which have the effect of increasing the school accommodation by seventy—attention has been paid to the lighting and the ventilation. The contractors of the work have been as follow:—Messrs. S. Wray & Co., masonry; Messrs. B. Thresh & Son, joinery; Messrs. S. Oddy & Son, painting; Mr. W. Barker, plastering; Mr. R. Hill, plumbing; and Mr. Thos. Nelson, slating. The architects were Messrs. Healey.

RIDING SCHOOL, GLASGOW.—A riding school has just been completed in Smith-street, Glasgow, which has been constructed by the Glasgow Tramway and Omnibus Company, Limited. The length of the building is 220 ft., width 40 ft., and height fully 40 ft. The building is situated on the banks of the Kelvin, and is supported from the river by eight iron columns 22 ft. high, made fast to the rock.

The flooring of the hall is of pine planks covered with concrete and asphalte. Upstairs are retiring and dressing rooms. Mr. Alexander Petrie was the architect; and Mr. John Baird, of the Tramway Company, engineer and master of works. The contractors were:—Ironfounders, Messrs. Moses M'Culloch & Sons; iron girders, Messrs. P. & W. M'Lellan; brick-builder, Mr. John Porter; joiner, Mr. Thomas Whyte; plumbers, Messrs. D. & J. Carrick; and slaters, Messrs. M'Ouat & Sons.

Wesleyan Chapel, Farnley, Leeds.—The foundation-stones of a new Wesleyan Chapel at New Blackpool, Farnley, near Leeds, were laid on the 28th ult. The building will have an open-timbered roof. Mr. G. F. Danby is the architect, and Mr. W. Lolley and Mr. F. Harrod are the principal contractors.

Alterations to St. John's Church, Tunbridge Wells.—On the 28th ult. the Church of St. John's, Tunbridge Wells, was reopened. The additions to the church include a new south aisle, the enlargement of the south transept, and a new tower facing the St. John's-road. Inside the church the old floors have been removed and new ones of wood blocks substituted, and the aisles and passages are to be relaid, and the seating of the church re-arranged with new oak benches. The choir stalls have been altered, and the vestry is enlarged also. Memorial windows have been renovated and re-fixed, and the altered accommodation will seat 200 people. Alderman Cronk is the architect, and the works have been done by Messrs. Bowman, of Stamford.

Proposed New School, West Calder.—A new senior school is about to be erected at West Calder, from the designs of Mr. J. Graham Fairley, of Edinburgh.

Church Restoration, Anglesey.—The ancient parish church of Heneglwys, near Llangefni, was reopened on the 30th ult. after restoration and reseating. Mr. P. S. Gregory, of Bangor, Diocesan Surveyor, was the architect for the restoration. Messrs. R. & G. Williams, Bangor, were the contractors for the building.

Parish Room, Hampton Lovett.—The mission room at Hampton Lovett was opened recently. The building was erected by Messrs. Small Bros., of Droitwich, from plans prepared by the Diocesan Architects, Messrs. L. Sheppard & Sons, Worcester.

Banking Premises, Dewsbury.—The new premises of the Lancashire and Yorkshire Banking Company at Dewsbury occupy a position in the Market-place. The basement floor is set apart for storage rooms and lavatory accommodation for the bank. The ground floor is to be devoted exclusively to banking purposes, consisting of a banking room, manager's room, and the requisite strong room; whilst the first and second floors are arranged in suites of offices. The entrance to the bank is through an entrance at the Market-place angle of the building, which opens into a porch, the walls of which are faced with ornamental stonework, the floor being laid with marble mosaic, showing a monogram of the Banking Company. The entrance to the offices is in the Westgate front. Each floor provides for a suite of three offices with its attendant lavatory accommodation. The whole of the premises are lighted by the electric light. The building and fittings have been designed by Mr. J. Lane Fox, architect, Dewsbury, and under his personal supervision the work has been carried out by the following contractors:—Excavators, masons, and bricklayers, Messrs. Chas. Whitehead & Sons, Ravensthorpe; carpenters and joiners, Messrs. John Richardson & Sons, Staincliffe; slater, Mr. Thos. Brear, Dewsbury; plumber and glazier, Mr. Frank Newsome, Dewsbury; painter, Mr. Ned Ramsden, Dewsbury; plasterers, Messrs. Thos. Cordingley & Sons, Bradford; electric lighting, Mr. A. R. Turner, Dewsbury; fittings, Messrs. Carr Bros., Bradford.

Baptist Chapel, Cardiff.—The foundation-stones of the new Baptist Chapel, Eldon-road, Cardiff, were laid on the 25th ult. Messrs. Habershon & Fawckner, architects, Cardiff, prepared the plans. The principal elevation faces Eldon-road. Between two octagonal buttresses, surmounted by Bath stone pinnacles, is placed a window 15 ft. high and 11 ft. wide. Beneath this window is the main entrance, opening into a vestibule, from which access is gained to the body of the chapel, and also to the stairs to the galleries. At the other end of the building is a rostrum, with a baptistry of Sicilian marble in front. Galleries are provided around three sides of the chapel, and arrangements have been made for the erection of an organ at some future time. The roof is open-timbered, and the seating and rostrum are of pitch pine throughout. The chapel is designed to seat 314 on the ground floor, and 274 in the galleries. The contract, which is for 2,425*l.*, includes vestries, and seven large class-rooms to be erected over the present school. Messrs. C. Price & Son, Canton, are the contractors.

Free Church, Clydebank, Glasgow.—A new Free Church is to be built at Clydebank. The church building will occupy a level site at the junction of Kilbowie-road and Chalmers-street. The main entrance will be in the former thoroughfare, the side of the building being towards Chalmers-street. The church will have accommodation in the area for 473 sitters and in the galleries for 229—in all 708. The hall, which is to be proceeded with at once, immediately adjoins the church on the north, and will be fitted up in all respects as a small church to seat about 400. Behind it will be vestries, and above them a large session-room. The large church gables and the smaller hall gable will be divided by a small belfry turret carried up from one of the staircases to the gallery. The hall will cost under 1,300*l.* ready for occupation, and the church about 3,800*l.* Mr. Henry F. Kerr, Edinburgh, is the architect.

Additions to St. John's Church, Buxton.—An electric organ is to be erected in this church, the tender having been entrusted to Messrs. Hill & Sons, of London. The addition of a chancel is being proceeded with, under the superintendence of Sir Arthur Blomfield & Son.

Hotel, Forest Gate.—The "Rising Sun Hotel" has just been opened at Forest Gate. The architect was Mr. Latham Withart, of Old Jewry, and the builders Messrs. Edwards & Edwards, of Kensington.

Renovation of Troon Wesleyan Chapel, Cornwall.—This building has just been reopened. The whole of the ground floor of the chapel has been reseated with pitch-pine pews to accommodate over 300 people. The orchestra has been reconstructed. Accommodation is provided for twenty-two singers, eleven on each side of the organ. The rostrum is almost entirely new, and has been lowered. The chapel is to be heated by hot water on the high-pressure system, which has been installed by Messrs. W. J. & C. Tyack, of Camborne. Mr. John Berryman, of Troon, was the contractor; the decorative work being carried out by Mr. Thomas, of Camborne. The architect was Mr. Horace W. Collins, of Redruth.

Business Premises, Sunderland.—The new premises of Messrs. J. T. Calvert & Co., Sunderland, are being built in two portions, so as not to stop the business. The first portion of the new building has a frontage of 96 ft. to the High-street, and goes 112 ft. back. The whole building will form a complete block, abutting on High-street, William-street, Lambton-street, and Back High-street. The artificial lighting is to be by electricity from the Corporation mains, the installation being by Mr. Davison Taylor, Jun., of Sunderland. The architects are Messrs. Armstrong & Knowles, of Newcastle-on-Tyne, and Mr. George T. Brown, Sunderland; and the builders are Messrs. T. P. Shaftoe & Co., Sunderland.

Additions, Grammar School, Morpeth.—Additions are about to be made to Morpeth Grammar School. It is proposed to build Science and Art Departments. The new school will be built from the plans of Messrs. Boolds & Hardy, architects, Morpeth.

Baptist Chapel, Maldon.—The new Baptist Chapel at Maldon, the foundation stones of which were laid on July 1, has just been opened. The building, which is in the Early English style, will accommodate about 250 persons, and has cost 1,250*l.* At the rear of the chapel there is a minister's vestry, and a larger one for meetings. The old schoolroom has been retained. The architect was Mr. P. M. Beaumont; and the builder Mr. A. Baxter, of Maldon.

New Wing, St. Catherine's Home, Ventnor.—A new wing has just been completed at St. Catherine's Home for Patients in Advanced Consumption, situated in Grove-road, Ventnor. This wing was designed by Messrs. Newman & Cocks, of Ryde, and has been built by Messrs. Ingram & Sons, of Ventnor. It comprises living-rooms for the twelve patients of the Home, other offices, and a little chapel. In the grounds there is also a little mortuary chapel, like the new wing, in the Gothic style, built of Bath and local stone, and with red-tiled roof.

Proposed Congregational Church, Westbourne, Bournemouth.—It is proposed to erect a new Congregational Church at Westbourne, at the junction of the Poole and Prince of Wales roads. Plans for the new church, schoolrooms, &c., are being prepared by Mr. T. Stevens, of Bournemouth.

Church, Castlemaine, Kerry.—Agreement has been entered into with Mr. J. B. Healy, contractor, Tralee, for the erection of a new church at Castlemaine, to be built from the plans of Mr. W. G. Doolin, M.A., architect, of Dublin. The cost of the work will be about 3,500*l.*

St. Mark's Parish New Schools, Dublin.—On the 4th inst. the Archbishop of Dublin (Lord Plunket) performed the ceremony of laying the foundation stone of St. Mark's new schools, Westland-row. The building, which will be five stories high, will have a frontage in Westland-row of 30 ft. Its height from the street will be 60 ft., and in length from front to rear 40 ft. The design is by Mr. J. F. Fuller, architect. The building will contain class-rooms, and a kitchen in which cookery lessons, and lessons in the work of the laundry, will be given to the female pupils. The contract with Messrs. Collen Brothers includes the turning of the old schoolroom into a parochial hall. The total cost will be 3,700*l.*

Extension of the Infirmary, Arbroath.—The extensions to the Arbroath Infirmary, which have been in progress during the last nine months, are now nearing completion. They consist of two parts—viz., a story on the kitchen wing and a new operating room. These, however, do not constitute the whole of the improvements that have been effected on the institution. The contractors for the various works were as follows:—Mason work, Alexander Reid; joiner work, Alexander Scott; slater work, William Brand; plumbers, D. Cook & Sons; plaster work, Middleton & Donald. Messrs. Carver & Symon were the architects, and the work has been carried on under their superintendence.

Building in Aberdeen.—A meeting of the Plans Committee of the Aberdeen Town Council was held on the 3rd inst., when another large list of proposed new buildings was brought before the meeting for the approval of the plans. The list contained sixteen proposed new buildings, chiefly dwelling-houses in the outskirts of the city, and there were some alterations and extensions on business premises. The plans to which attention was chiefly directed were those of the proposed new offices for the School Board in Union-terrace, and those of the new Palace of Varieties. The total value of the proposed new buildings before the committee, including 5,000*l.* for the new School Board offices, and 6,000*l.* for the new "Palace," was close on 27,000*l.*

Extension of Business Premises, Liverpool.—The work of extending Messrs. Kirkland Bros.' premises in Liverpool, which has been going on for several months under the direction of Mr. H. Hartley, architect, has just reached completion. The new portion is in the basement, and extends over the entire area of the building. This will form grill, dining, and smoking apartments. The walls at the base have been constructed of Devonshire and Italian marble, the upper portion being composed of tiles.

Council Buildings, Blyth, Northumberland.—The erection of a suite of buildings for the purpose of the Cowpen Urban District Council has been completed on a central site of ground in Seaforth-street, Waterloo. The main building is of red-brick, with stone facings, and comprises on the ground floor the offices of the various salaried officials, lavatories, &c. In the upper story is the deputation room and the Council Chamber, an apartment 80 ft. by 36 ft. Adjoining the building are the stables and hayloft. The cost of the entire suite of buildings is 1,000*l.* The building has been erected by Mr. J. N. Heatley, in accordance with plans drawn by the Council Surveyor.

Restoration of Felsham Church, Suffolk.—The nave of Felsham Church has recently been re-roofed to its original height. The new roof is constructed of English oak, consisting of eight hammerbeam principals, with curved ribs and moulded wall pieces, and massive rafters, purlins, and ridge, all framed and pinned with oak pins. Externally, it is covered with copper, replacing a heavy lead roof. The walls being slightly out of upright and somewhat weakened by damp at the base, iron tie rods were inserted to each principal. The parapets have been rebuilt in panelled flint work, and the east wall over the chancel arch heightened and finished, with a cross to match the one on the chancel. In addition to this, two brick buttresses on the south side have been rebuilt in flint and freestone, to match others on the same side. The porch has been re-roofed in copper. The whole church has been drained round the walls by a brick and concrete gutter, and repairs carried out to the walls of the base all round the church and tower. The work has been carried out by Mr. Fred. Bennett, of Ipswich; Messrs. Ewart, of King's Cross, have done the copper roof, and the whole has been executed under the superintendence of Mr. John S. Corder, architect, Ipswich.

SANITARY AND ENGINEERING NEWS.

Bucknall Sewerage, Stoke Rural District Council.—During the office of the retired Surveyor, Mr. Bradford, the Council acquired some 40 acres of suitable land for irrigation and pumping station. The whole scheme has been carefully reconsidered upon reports from the present Surveyor, Mr. Larner Sugden, of Hanley and Leek. The plans adopted by the Council include main sewers at about 5 ft. deep for the whole of the township. Adams' sewage lift has been decided upon for raising the low-level sewage to the pumping station by the aid of the sewage descending from the higher streets. The remainder gravitates to the pumping station, whence the whole will be raised some 80 ft. rise by steam (ram) direct-acting pumps, after a portion has first gravitated over the lowest irrigation area. For the sewage farm the system contemplated is one of distributing chambers placed some 100 yds. apart, and connected below ground by patent jointed stoneware pipes, the sewage gravitating therefrom to any portion of the land by closing a valve, when the liquid rises in the chambers and flows on to the surface, whence ordinary trenches convey it in irrigation. Then at the end of the season the whole area will be ploughed over, a saving as compared with the spade-industry necessitated by "ground-carriers." The land will be drained by agricultural pipes, each covered with 9 in. of clay to keep out the loose soil; the effluent from these discharges into ditches, and finally therefrom into the Trent. The number of houses in the district is nearly 650, which, allowing five persons per house and thirty gallons per head per day, gives a total daily volume of about 100,000 gallons.

The only tenders at present accepted are Mr. W. Owen's (of Bucknall) for direct-acting steam ram pumps, and the Stanton Iron Company's for cast-iron sewage mains.

WATER SUPPLY, SOUTHAMPTON.—Mr. E. P. Burd, Local Government Board Inspector, recently held an inquiry at the Audit House, Southampton, concerning the application of the Corporation for the issue of a Provisional Order enabling the Corporation to borrow additional moneys for the purpose of their waterworks undertaking. The Town Clerk conducted the inquiry on behalf of the Corporation, and said it was calculated that the Corporation would require to spend 25,000*l.* on their waterworks, mains, &c., during the next three years. Extensive works had been rendered necessary by the enormous growth of the town, and the largely increased consumption of water consequent upon it; also the worn condition of many of the mains. Mr. W. Matthews, waterworks engineer, then gave the following particulars of the works referred to:—Completion and renewal of mains, application of 1894, 13,938*l.*; sanctioned, 7,000*l.*—6,938*l.*; new mains sanctioned by the Council, 1,410*l.*; renewals in 1899 (two miles), 1,500*l.*; mains to new estates, 1 500*l.*; new 18-in. gravitation main from Otterbourne, 11,000*l.*; new 12-in Portswood main, 2,000*l.*; high level supply, Highfield, 2,000*l.*; total, 26,348*l.* For unforeseen works, 3,430*l.*; balance of borrowing power, unappropriated, 4,478*l.*; total, 25,000*l.* The Inspector inquired whether there was any likelihood of the wells being exhausted, and, in reply, Mr. Matthews said there was at present a surplus of a million and a-half gallons of water daily, and they had not drawn upon their headings at all this season.

SEWERAGE SCHEME, WALSALL WOOD.—An inquiry was held at the Brownhills Council offices on the 4th inst., before Colonel J. T. Marsh, R.E., one of the inspectors of the Local Government Board, into the application of the Brownhills Urban District Council for sanction to borrow 12,500*l.* for works of sewerage and sewage disposal for the Walsall Wood, Shelfield, and Clayhanger portions or their district. The scheme was explained by the Engineer, Mr. H. Bertram Nichols, C.E., of Birmingham. The population is about 6,000, and the Shelfield district, comprising about 1,660 population, will require to be pumped on to the Brownhills Sewage Farm, the remainder gravitating to the same outfall at various points on the farm. There was no opposition to the application. The Inspector, on the following day, with the Engineer, visited and inspected the sewage farm, and the various points of the districts to be sewered.

LOCAL SEWERS IN LONDON.—The Main Drainage Committee of the London County Council have sanctioned the construction of local sewers, as follows:—Poplar: 217 ft. of 9-in. pipe sewer in Manchester-road, for surface water only. St. Marylebone: 150 ft. of 4 ft. by 2 ft. 8 in. brick sewer in Broadley-terrace, Lisson-grove. Wandsworth: 270 ft. of 18-in. pipe and concrete sewer in Blackshaw-road, Tooting.

SEWAGE SCHEME, STOWMARKET.—The Local Government Board have just sanctioned the loan required by the Urban District Council for works of sewerage and sewage disposal, as designed by Mr. J. Pollard, C.E., whose scheme is based on the latest improvements in sewage treatment, including Candy tanks and oxydising polarite filters. The Council have agreed to advertise for tenders forthwith.

DOCK EXTENSION, MIDDLESBROUGH.—The plans for the proposed extension of Middlesbrough Docks have been deposited by the North-Eastern Railway Company at the Town Clerk's office, Middlesbrough, for public view. The chief features on the plans are that they show that the entrance channel will be widened to a very considerable extent, the widening taking place on the south side of the channel. The dock gates will be moved to a point about 150 ft. further down the dock cut, and they will be increased from the present width of 54 ft. to about 80 ft. The accommodation of the docks themselves will be increased. Two new quays, both larger and wider than the existing embarkment quay, will be cut on the north side of the existing quay, and running in the same westerly direction. This will make three large quays, with all the necessary cranes and other accommodation, on this side of the dock, and running like three fingers from the main body of water in a westerly direction. The sloping bank and a portion of the north side of the dock will be filled up, and presumably will be used to carry the rails which the new quays will displace. The removal of the dock gates lower down the cut will necessitate considerable alterations in the wharfage on that side of the dock. The square corner from the existing dock gates, which forms the east quay, will be cut away, and a long quay, easily got at by vessels entering the dock, will be made from the new dock gates to the front, where the present east quay joins the south quay. The present dock offices, labourers' cottages, &c, will be removed, and will probably give place to large and more commodious offices and improved cottages, but the present hydraulic engine house will be spared. The whole will be lighted with electricity, the arrangements for the lighting of the docks, the railway company's stock yard, and the railway passenger station, with electricity being now rapidly approaching towards completion. The wires are nearly all laid, and it will not be a very long period before the new illuminant is in proper working order. The installation is being laid by Messrs. Holmes & Co., of Newcastle.—*North Eastern Gazette.*

ELECTRIC LIGHTING NEWS.

ELECTRIC LIGHTING AT THE EDINBURGH GENERAL POST OFFICE.—An installation of the electric light has just been fitted up in the Edinburgh General Post Office by Messrs. W. Barton & Sons, Edinburgh. The installation includes thirty-six ten-ampere arc lamps and 540 incandescent glow lamps. The arc lamps, which are of the Brockie-Pell double-carbon type, and burn for thirty-two hours without renewal of the carbons, are of 2,000 candle-power each, and are connected four in series, on a 230 volt circuit. The whole of the building has been lighted and wired for electric energy supplied at 460 volts, and provision has been made at the same time for any future extension of the premises. The switchboard, the largest connected to the Corporation mains in the city, is placed in a suitable position in the basement. It is built of six slabs of enamelled slate, 1¼ in. thick, each separated by insulating fillets of vulcanised fibre. On this are mounted two ammeters and a voltmeter for indicating the quantity and pressure of the current, and twelve triple-pole switches and fuses, each carrying fifty amperes, which control the main circuits. Eight sub-main switchboards are placed in the various sections of the building. A noticeable feature of the installation is the lighting of the public telephone-cabinets by an automatic switch concealed in the seat provided for the speaker at the instrument, by means of which the light is turned on when the telephone is being used.—*Scotsman.*

THE ELECTRIC LIGHT IN HAMPSTEAD.—At the meeting of the Hampstead Vestry on the 3rd inst., Mr. G. H. Cottam, the chief Electrical Engineer, presented a report on the growth of the electric lighting undertaking, and the necessity of providing further plant at the central station to meet the demand for current in the coming winter. The Lighting Committee thereupon recommended the Vestry to provide additional plant, at a total cost of 4,500*l.*, which was unanimously agreed to. At the present time the Vestry have over 500 private consumers of the electric current, and 36,000 lamps have been already connected.

CARLISLE AND THE ELECTRIC LIGHT.—At a recent meeting the Carlisle Gas Committee had under consideration the question of carrying out the provisional order empowering them to supply a part of the city with the electric light, and as a result of their deliberations they resolved to ask the Town Council at the next meeting to empower them to engage a consulting engineer, so that the work may be proceeded with without further delay, as the provisional order obtained for three years in 1895 has only about eighteen months more to run.

ELECTRIC LIGHTING, PORTSMOUTH.—Major Tulloch, R.E., Local Government Board Inspector, attended at the Town Hall, Portsmouth, recently, for the purpose of conducting an inquiry respecting an application on the part of the Corporation for their sanction to a loan of 16,000*l.* for additions to the electric lighting operations. Of that amount 6,000*l.* was part of the 20,000*l.* originally sanctioned by the Local Government Board, being required for odd purposes. The remainder is proposed to be utilised for a new engine and plant.

STAINED GLASS AND DECORATION.

WINDOW, ST. MARK'S CHURCH, SURBITON.—The work of remodelling the west window of St. Mark's Church, Surbiton, over the gallery, has just been completed. The original figures remain, but stained glass of a lighter colour takes the place of the dark-coloured glass in the old window. The work has been carried out by Mr. Hemmings, Cavendish-square, London.

DECORATIONS, U.P. CHURCH, ABERNETHY.—This place of worship has been reopened after cleaning and redecoration. The architect under whose superintendence the work was carried out was Mr. C. S. Robertson, Perth. The painter was Mr. Haimes, Newburgh.

WINDOW, ST. MICHAEL'S CHURCH, BYKER.—Messrs. Wailes & Strang, of Newcastle, have just finished a stained-glass window which is to be erected in St. Michael's Parish Church, Byker, as a memorial of the late Rev. H. F. Ormerod, B.A.

FOREIGN.

FRANCE.—A bust of Renan, by M. Falguière, was unveiled last week in one of the rooms of the College of France.——A petition has been addressed to the Minister of Fine Arts demanding that a special section for objects of art should be formed in the 1900 exhibition.——A new building for public fêtes and ceremonies was opened last Sunday in the Rue Bernard Palissy at Boulogne-sur-Seine. The architect is M. Barret.——A new post and telegraph office is shortly to be commenced at Cannes.——The forty-fifth exhibition of the Société des Amis des Arts of Bordeaux will be opened from the middle of February to the middle of March.——M. Marcel Dourgon, the architect whose design was selected in competition for the new museum of antiquities at Cairo, has received orders to proceed with the carrying out of the building without delay.——An interesting competition has been organised in Paris with the view of finding among the various forms of auto-motor car one with a special form corresponding to its function and structure, instead of only presenting the appearance of horse-carriages without the horses. It is to be hoped that the competition will lead to the evolution of some form both suitable and graceful.——The death is announced, at the age of seventy-four, of the painter Fritz Zuber-Buhler, a Swiss by nationality, but who had lived for many years in Paris. He was a pupil of Picot and of the Ecole des Beaux-Arts. He devoted himself chiefly to portraits, and his works had a considerable success in exhibitions.

UNITED STATES.—The street railroad companies of Brooklyn, N.Y., use the 9-in. Johnson girder rail with a broad flange. This rail is much more difficult to treat in connexion with asphalt pavement than the grooved rail, as the shock of the wheel falling from the higher to the lower part of the head of the rail soon damages the asphalt. As granite toothing is unsightly, and it is very difficult to maintain the asphalt in the pockets between the stone, on some of the streets granite headers about 5 in. wide, 9 in. deep, and 3 ft. long were placed along the inner side of the rail at the same level as the rail head. Where these rested upon a tie at the centre they would move slightly and soon break. A more satisfactory result was obtained by Mr. Nelson P. Lewis, Engineer of Streets, by using selected square cut granite blocks only 6 in. deep and about 12 in. long. These were laid in mortar directly on the concrete and the remainder of the roadway filled with concrete to within 3 in. of the top of the blocks. The space between the blocks and the web of the rail was filled with fine concrete and grout. Portland cement being used in all cases, the asphalt could be laid within thirty-six hours.——The trial of eucalyptus as a paving material in San Francisco, Cal., is suggested by Mr. Ernest McCullough, Engineer of the Merchants' Association of that city. The lowest price Mr. McCullough has been able to get on this material is 25 cents per square foot for the material laid on the streets in blocks from 6 to 8 in. long, 3 to 4 in. wide and 6 in. deep. This does not include foundation and would make it rather more expensive than asphalt, unless the Californian lumbermen can do better than the Australians.—*Engineering Record.*

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. Douglas Young, surveyor, of 5, Coleman-street, has taken into partnership Mr. Benjamin Bailey, who will carry on the business with him under the style of Douglas Young & Co.

BUILDINGS OF ARCHITECTURAL AND HISTORIC INTEREST.—There has just been issued as a Parliamentary paper a list of those buildings of architectural and historic interest in the United Kingdom, of which the structure and fabric are under the control of or maintained by her Majesty's Commissioners of Woods and Forests. The list is as follows:—England—Dorset: Sandsfoot Castle, near Weymouth. Gloucester: Castle of St. Briavels and the Speech-house in the Hundred of St. Briavels; Old Preaching-cross in the Manor of Staunton. Hants: The Queen's House and Verderers' Hall, in the New Forest. Kent: Eltham Palace. Middlesex: Portion of the ancient Wall of the City of London, George-street, Tower Hill, City. Northumberland: Lindisfarne Priory, Holy Island. Scotland—Inverness: Ruins of the old Church and Monastery of Beauly. Ireland—Cork: James Fort or Old Fort, near the town of Kinsale. Wales—Denbigh: Denbigh Castle, the Burgess Tower at Denbigh, Leicester's Church (part of the ruin of). Merioneth: Harlech Castle. Isle of Man: Castle Rushen, Peel Castle, embracing St. German's Cathedral.

BRISTOL CLERKS OF WORKS AND BUILDERS' FOREMEN'S ASSOCIATION.—On the 28th ult. the fourth annual dinner of the Bristol Association of Clerks of Works and Builders' Foremen was held at the Grand Hotel, Broad-street. Mr. Frank Wills presided. The loyal and patriotic toasts having been given, Mr. J. Pike proposed "Our Civic Rulers." Mr. J. Curle, J.P., responded, and said that, among other improvements, he thought they wanted new municipal buildings for the city. Mr. W. Woodrow next submitted "The Architects." The Chairman, in response, remarked that the foremen and the clerks of works were a very useful body of men, to whom the builders and the architects were much indebted. In the course of some practical remarks he emphasised the necessity of their keeping a diary in their work, as he had found it very useful. Mr. W. Kidwell gave "The Builders," and said that the signing of a large contract often caused much anxiety, because the success of the undertaking depended largely on the good management and careful supervision necessary for carrying out the work. To secure this, of course, required the best ability that could be procured. He referred to the support which a number of the architects and builders in the city had accorded to the library of the Asso-

ciation, the object of which was to assist the members in gaining information and educating themselves to a higher degree of efficiency. Mr. E. Walters, Mr. F. N. Cowlin, and Mr. F. A. R. Woodward responded. Mr. A. Scull proposed "The Association of Clerks of Works and Builders' Foremen," and Mr. J. Blackmore responded. The remaining toasts were "Trade and Commerce," given by Mr. G. Crispin, and acknowledged by Mr. J. Curle and Mr. W. H. Jelly; and "The Visitors," proposed by Mr. J. Bale, and responded to by Mr. J. Reed.

A FIRM'S "IN MEMORIAM" TO DECEASED EMPLOYEES.—Messrs. Harry Hems & Sons, of Exeter, have paid a graceful and feeling tribute to the memory of some of the principal workers who have died while in their employ, by having a framed board on which their names, the date of their death, and the length of their employment by the firm, are painted up. We have received a photograph of the memorial in its present stage, the inscriptions being as follows:—

In honored and perpetual memory of Fellow Craftsmen of HARRY HEMS & SONS, who died in harness. Although past from our midst by no means forgotten.

REST AFTER LABOUR.

STEPHEN SHUTE, Foreman of Statuaries, died at Heavitree, 3, September, 1880. Aged 42 years. More than 10 years chief mason in this employ.

JOHN CHURCHILL, Foreman of Statuaries, drowned at Sidmouth, 6 August, 1881. Aged 28 years. For 4 years in this employ.

MARK BROCK, Joiner, died at Norwich (whilst fixing a pulpit in its Cathedral), 14 May, 1891. Aged 48 years. More than 20 years in this employ.

THOMAS CUNNINGHAM, Woodcarver, died at Exeter, 16 January, 1892. Aged 34 years. Ten years in this employ.

WILLIAM ANDREW LEE, Granite Mason, died at Exeter, 16 March, 1896. Aged 39 years. Ten years in this employ.

It is pleasant to find a firm thus commemorating the names of those who laboured under them and died in their service; it is a suggestion that might well find imitators.

LONDON COUNTY COUNCIL AND HISTORICAL BUILDINGS.—Dr. W. J. Collins, Vice-chairman L.C.C., presided over the conference on the 4th inst. at the County Hall, held by members of the General Purposes Committee of the London County Council and representatives of various Institutes and Societies interested in the preservation of buildings possessing historical or architectural interest. Amongst those present were Mr. A. Waterhouse, R.A. (representing the Institute of Architects) Mr. Mountford, Mr. Young, and Mr. Shirley (representing the Architectural Association); Mr. Charles Welch (for the London and Middlesex Archæological Association), Mr. Philip Norman (for the Society of Antiquaries), Mr. Hilton Price (Director S.A.), Sir Robert Hunter (Chairman of, and for, the National Trust), Mr. Thackeray Turner (for the Society for the Preservation of Ancient Buildings), Mr. Wheatley (for the Society of Arts), Mr. Ashbee, and Canon Rawnsley; with Dr. Longstaff, Mr. Beachcroft, Mr. Dickinson, and Mr. Laurence Gomme. The meeting resolved that a printed register (with illustrations and descriptions) should be established, similar to one which Mr. Ashbee has already made for East London, and that the County Council should form a committee, to be advised by experts, for that purpose. Whether the register shall be published is left for future resolve. If it is issued to the public under the County Council's auspices and approval, there seems to be some likelihood, as Canon Rawnsley pointed out, of "fancy prices" being set upon the registered buildings. In that event the Council, as acting for the ratepayers, might at times find themselves embarrassed by their implied appraisement of the properties. The question is a large one, and needs careful consideration. The project, in the abstract, is highly commendable. In France they have a Commission des Monuments Historiques, which, we believe, secures a measure of legal protection that in our country could not, we imagine, be obtained save under statute. Not to publish the register would militate against a cause which the conference have at heart—to quicken a general appreciation of the relics and specimens of architecture in our midst. We may add that the London Topographical Society have just issued a general report and handbook upon the maps and views issued by them in 1880-7.

THE GUILD OF LITERATURE AND ART.—By a private Bill promoted for next session the Guild, incorporated in pursuance of 17-8 Vict., c. 54 (1854), seek for enabling powers to convey all their property, including the lands and houses at Stevenage given to them by the first Lord Lytton, to the Royal Literary Fund and the Artists' General Benevolent Institution, in equal moieties, and for their own dissolution.

FAIR LABOUR AND THE HARTLEPOOL TOWN COUNCIL.—The usual monthly meeting of this Council took place on the 2nd inst. On the consideration of the Improvement Committee's report, a fair labour clause, sent in by the Trade and Labour Council, was dealt with. The Committee recommended that that body be informed that the Committee have, in the past, inserted clauses in the contracts against sub-letting, and that the Committee cannot recommend the clause sent in, which is to the effect that no contract shall be let to any one who does not pay the trade union rate of wages. Ald. Horsley moved as an amendment, "That the Corporation when contracting shall, in asking for tenders, request the contractors to pay such rates of wages and observe such hours of labour as are generally accepted as fair in the various trades in the borough, and that no sub-letting be permitted. The amendment was carried with only four dissentients.

LANCASHIRE FEDERATION OF MASTER BUILDERS.—At Bolton, on the 1st inst., the half-yearly meeting of the Lancashire Federation of Building Trade Employers was held under the chairmanship of Mr. William Cunliffe (President), and there were representatives from Bolton, Accrington, Ashton, Blackburn, Blackpool, Burnley, Bury, Chorley, Colne, Darwen, Longridge, Nelson, Oldham, Preston, and Rochdale. The President read an address on the policy of employers of labour in the building trade, in which he referred at length to the efforts of trade unions which, whilst of immense service in bettering the circumstances of the working classes, had a tendency in some instances which was unreasonable and dictatorial, if not positively tyrannical. He alluded to the restrictions on ready worked or imported materials, to the undue limitation of apprentices, to the unfair use of priced schedules, and to the unfair competition of municipal corporations. A discussion followed. The question of the restrictions on fixing worked stone in different towns was discussed and left to the executive.

LIVERPOOL WORKHOUSE ACCOMMODATION.—The Liverpool Select Vestry has again, at a recent meeting, taken into consideration the inadequate accommodation of the present workhouse buildings, and the three schemes prepared to deal with the subject. Alderman Menlove, in discussing the reports and plans of the three architects—Mr. Willink, Mr. Hartley, and Mr. Kirby—said he thought Mr. Willink's was so expensive as to be out of the question. He rather approved of Mr. Kirby's plan, as it seemed to be upon an economical scale. As the plans had been paid for and were the property of the Vestry, they could take a little from one and a little from another, and get at Brownlow-hill a hospital and infirmary to accommodate 1,750. In keeping the sick poor in the parish of Liverpool he believed the Local Government Board would assist them. Then they could make provision for the "able-bodied and infirm" poor in their Kirkdale buildings.—Mr. Pickthall said he would like all the sick to be kept at Brownlow-hill, and he looked to accommodating the able-bodied and infirm at Kirkdale by an extension of the buildings there if the Local Government Board would allow it.—Mr. Burke moved "That, having considered the plans and reports of three competent architects, we are of opinion that all the sick and infirm cannot be accommodated on the Brownlow-hill site, and that we adhere to our original resolution to alter the present Kirkdale building, to accommodate the number of able-bodied required." They were all agreed that the bed-ridden infirm could not be accommodated at Brownlow-hill. Further discussion followed, and Mr. Burke's motion was carried by 16 to 9. Subsequently, the Vestry as a Board confirmed the resolution, and it was referred to the old Special Committee to consider what further provision could be made for the sick and infirm that could not be accommodated at Brownlow-hill.

LEICESTER AND DISTRICT BUILDING TRADES ASSOCIATION.—The annual dinner of the Leicester and District Building Trades Federation of Employers' Associations was held on the 3rd inst. at the Bull's Head Hotel. At the subsequent proceedings Mr. G. Hardington took the chair. After the usual loyal toast had been honoured, "The Federation of Employers' Associations in the Building Trade" was given by Mr. Owen Ellis, who said he had much pleasure in proposing the toast for several reasons. He believed federations of that kind were most valuable, not only to the members themselves, but also to the public—their customers. Some people seemed to think that the sole idea of a federation of that kind was to raise prices and make them pay exorbitant sums for their work, but that was not so, and on the other hand the public got, through the Association, a better class of work and better workmen. He was pleased that he could congratulate them on the state of the trade in Leicester, and he thought that for some time to come it would continue to be prosperous, because the town occupied a central position, and had exceptional railway facilities. They had, too, a great variety of trades, and were not like some towns, dependent upon one particular trade.—The Chairman, in responding, said the Master Builders' Association could claim to be the father of the Federation, for it was in existence for some two years before the latter was started. The Master Builders' Association worked so successfully that it was thought the time was ripe to invite the subtrades to federate with them, so that they could have united councils and interests. The Federation had not done all that it was intended it should, or all that they had tried to do, but he thought no one could deny that they had brought about a better feeling between the contractors and subcontractors. The one chief point that had animated every one of their meetings had been to enable men to conduct their businesses in a manner that would be profitable and not painful. They had tried to introduce rules and laws and recognised customs with that object in view. Dealing with the Federation as it affected the workmen, the Chairman said that so far as his experience went he had never found any desire on the employers' part to pay low wages. They had always held at their meetings and their conferences during the strike that it was necessary, in the interests of the community and civilisation, that they should pay a substantial and a living wage to their men, and under certain conditions they would be prepared to pay better wages. He was afraid there was an idea amongst the operatives that there was antagonism between employer and employed, but that was an erroneous idea. What they wanted the operatives to recognise was that for good wages they wanted good work, and that it was not to their advantage to make work as dear as they could. He was glad to say that there was no scarcity of trade, and that all skilled operatives could get full employment, and there were only a few men out of work, and they were of the class to whom it would be a hardship if they had too much to do. Every man who was worth his money could get plenty of regular employment.—Mr. R. B. Starkey proposed "The Town and Trade of Leicester," and Mr. Chambers responded. He said that the building trade had never been better than it was now. The recent strike seemed to have cleared the air a little, and he hoped it would continue so for some time to come. Mr. Gimson proposed "The Visitors," which was responded to by Mr. Cornish and Mr. Neale.

LONDON AND TRADES UNIONS.—In the course of his interesting address on "London," at the Queen's Hall, Langham-place, on Monday, Sir Walter Besant referred to the subject of trades unions. "Another institution," he said, "for which we must thank London is the trade union. The old City Company ruled its trade absolutely, received apprentices, would not allow bad work to be sold, ordered the hours of work, fixed the wages and the market price, and maintained the old and the sick. This was a trade union far more complete and perfect than any of its modern successors. We organise for higher wages; but of honest work, good work, the best work, we say nothing. The old trade union kept up discipline, it gave the men pride in their trade and in themselves. In our own trade unions I have never once heard of a master being held up to contempt for putting out bad work; and I have never heard of a man being turned out of his union because he scamped his work. We can see very clearly that the masters kept the control of everything in their own hands, and that they had no intention of letting the craftsman become a master, because he was without letters or education of any kind. When we go back to the old methods and create a new trade union on the plan of ancient London, we shall make certain alterations, but we shall follow the old lines. The new trade union will unite master and men; the council will consist of men as well as of masters; the council will fix wages; the council will rule the trade. For my own part I should like to see every trade once more an organised body; disciplined; proud of turning out good work; holding honesty of work more to be desired than a shorter day or a higher wage."

DOORWAY, 52-3 PARLIAMENT-STREET.—The illustration of this doorway, given in our issue of Nov. 21, was from a photograph by Messrs. S. B. Bolas & Co., Ludgate Hill.

THE CATHEDRALS OF ENGLAND.—On the 7th inst., in the large Lecture Theatre of the Birmingham and Midland Institute, a lecture, illustrated by limelight views, was delivered by Mr. A. Darbyshire, upon the subject of "Some English Cathedrals." After some preliminary remarks, he said there was not to be found in England, or scarcely in the world, an architectural picture so beautiful as the view of Durham Cathedral from the river. There it stood on its rocky eminence, a monument of the early phase of Christian art in this country, and it might well be chosen as an illustration of the Norman work which constituted the foundation of English Gothic architecture. After giving the history of this cathedral, Mr. Darbyshire turned to the Cathedral Close of Salisbury, and described the building as the gem of the Early English period of Gothic architecture, and to the Cathedral of Lincoln, remarking, after giving many details of the building, that one of the finest poems ever written in stone was the Lady Chapel, which formed the entire east end of the cathedral, and which was a grand example of the transition from Early English to decorated Gothic. This lovely work was the medium through which English ecclesiastical architecture glided, so to speak, into that glorious Edwardian Gothic in which our national architecture reached the acme of beauty and the meridian of its truth. The characteristic features of many other well-known cathedrals were explained by the lecturer, who concluded that there was nothing in the history of art so beautiful, so truthful, and so majestic as a Gothic cathedral, and let it be borne in mind always, he said, that the Gothic architecture of the cathedrals of England had an individuality distinct from the Gothic of other countries. It had maintained that individuality from the moment it took root in the soil. It was pure in thought and refined in conception, it was truthful and beautiful.

Truly, the old mediæval builders had left a legacy rich in honesty, truth, and beauty. A hearty vote of thanks was accorded Mr. Darbyshire at the close of his address.

VENTILATION AT MARISCHAL COLLEGE, ABERDEEN.—The Sub-Committee of the Sites and Plans Committee of the University Court in charge of the ventilation arrangements at Marischal College met on the 3rd inst. Mr. Key, of Glasgow, whose system was adopted for the ventilation of the new buildings at Marischal College, was present. There was under consideration a number of difficulties which have been encountered in connexion with the working of the system, especially in the Chemical Department.

LEGAL.

SUB-DIVISION OF WAREHOUSES.

AT the Worship-street Police-court, on the 26th ult., Mr. Cluer made an order affirming a "notice of objection" served under Section 150 of the London Building Act, 1894, by Mr. Arthur Crow, District Surveyor, upon Messrs. Kearley & Tonge, the owners of warehouses in Durward-street, Whitechapel.

The notice in question required that a certain additional warehouse which is about to be erected of a greater extent than 250,000 cubic feet, should be divided by party-walls in such manner that no division thereof should extend to more than 250,000 cubic feet, in accordance with the provisions of Section 75 of the Act.

In appealing against this requisition of the District Surveyor, Mr. J. P. Grain, on behalf of the owners, contended that Section 74 entitled them to adopt fireproof ceilings or floors in lieu of party-walls. He quoted the Section as follows: "Every building shall be separated either by an external wall or by a party-wall or other proper party-structure from the adjoining buildings," and pointed out that, by definition 20 a horizontal floor was included in the term "party-structure." He said that a party-wall by Section 5 (16) was defined as being "a wall forming part of a building and used, or constructed to be used, for separation of adjoining buildings belonging to different owners, or occupied, or constructed, or adapted to be occupied by different persons," and consequently did not apply to the present case, as the buildings in question would be owned and occupied entirely by his clients. He then called Mr. Wm. Eve, architect, who produced the plans of the buildings and described the method of construction proposed to be adopted. He stated that the buildings would be entirely separated from each other by fireproof floors, the only means of communication between them being an approach on each floor from a staircase which was external to and separate from the buildings themselves. He suggested, for the learned Magistrate's consideration, that they would thus form three separate buildings, each having a separate entrance from without. He thought it right, however, to say that there would be lifts running up through the buildings, but shut off by 9-in. walls and iron doors. In cross-examination by Mr. F. F. Daldy, who appeared for Mr. Crow, Mr. Eve stated that the floors would be of heavy construction, being calculated to carry about 7 cwts. to the foot, and that they would be carried by cast-iron supports. Asked whether, in the event of a serious fire breaking out in one of the stories, the cast-iron supports would not be liable to crack and thus cause the floors to fall in, he said they would substitute wrought-iron supports if the District Surveyor preferred it.

Mr. Daldy urged that, although the term "party structure" in Section 74 included a horizontal floor as well as a party wall, Section 75 required a "party-wall," and not a "party-structure," and his learned friend could not get out of his liability to provide a party wall under Section 75 by falling back on the party-structure provisions of Section 74. He quoted the case of "Holland and Hannen *v.* Wallen," which decided that a horizontal floor was not a party-wall.

Mr. Grain, in reply, contended that Section 75 was merely inserted in the Act in order to amend the corresponding section of the Act of 1855, which limited the size of a warehouse to 216,000 cubic feet; and Section 74 of the new Act being entirely fresh legislation, his clients were entitled to take advantage of it.

Mr. Cluer, who had taken time to consider his judgment, said he was unable to agree with Mr. Grain's contention that ceilings were to be treated as "party walls." The building was, he decided, one building, and as such had to be divided by party-walls." If the statute had meant that you might build a large building and each division of it—each floor, that is—might be 250,000 cubic feet it would have said "unless it be divided by party structures," making it clear that each floor then might hold 250,000 cubic feet. He could not read into Section 75 of the Act the word "structure" instead of "party-wall."

In affirming Mr. Crow's notice of objection he allowed seven guineas costs.

It being suggested that a case on a point of law would be asked for, Mr. Cluer said he should be very glad for the High Court to decide whether a ceiling was a party-wall.

ALLEGED INTERFERENCE WITH LIGHT: CASE IN THE CHANCERY DIVISION.

THE case of Broomfield *v.* Williams came before Mr. Justice Kekewich in the Chancery Division, on the 8th inst., it being an action in which the plaintiff, the owner of a semi-detached house at Llandudno, claimed to restrain the defendant, the owner of adjoining land, from interfering with the light coming to the plaintiff's house. The action came on without pleadings, but the defendant had furnished the plaintiff with certain points, partly of law and partly of fact, on which he relied for his defence.

Mr. Warrington, Q.C., and Mr. Badcock appeared as counsel for the plaintiff; and Mr. Bramwell Davis, Q.C., and Mr. Rowden for the defendant.

It appeared from the statement of Mr. Warrington that the action was not founded upon any claim for ancient lights, but was rather founded upon implied obligation, covenant, or contract. The facts and circumstances existing at the time of the conveyance of the plaintiff's house were that the piece of adjoining land over which the plaintiff claimed a right of light was known to both parties as building land. The other houses in the same road and neighbourhood had been built in such a way that there was at the least 8 ft. between the several houses where there were windows at the gable end, and the plaintiff's claim was that, having regard to the facts and circumstances, he was entitled to have a passage on the defendant's side of his boundary wall equal in width to the passage which now existed between the boundary wall and other houses. The defendant had built his house at a depth of 14 ft. 8 in. from back to front against the boundary wall. The consequence was that between the plaintiff's window on the ground floor and the wall built opposite there was a distance of only 6 ft. 3 in. The plaintiff stated that he was given to understand that he would have had a passage of 4 ft. 9 in., or thereabouts, between his own house and the boundary wall, and what the plaintiff asked for was a declaration that he was entitled to such access of light to his windows over the land of the defendant on the western site of his house as would come over houses being in height and position relative to the plaintiff's as that enjoyed by similar houses in Mostyn-avenue to the east of the plaintiff's house. In addition, the plaintiff claimed an injunction to restrain the defendant from continuing to do what was complained of.

At the close of the plaintiff's case Mr. Bramwell Davis submitted that the plaintiff had failed to make out a case.

His Lordship, after hearing evidence, held that the plaintiff had failed to make out his case, and gave judgment for the defendant, with costs.

MEETINGS.

SATURDAY, DECEMBER 12.

British Institute of Certified Carpenters.—Annual Dinner, Carpenters' Hall, London Wall. 6 p.m.

MONDAY, DECEMBER 14.

Royal Institute of British Architects.—(1) Messrs. W. E. Street and Max Clarke will report on the second series of experiments upon brickwork conducted by the Science Standing Committee; (2) Professor Unwin, F.R.S., on "The Relationship between Form and Strength." 8 p.m.

Leeds and Yorkshire Architectural Society.—Professor F. M. Simpson on "Architectural Education, and a School of Architecture." 7.30 p.m.

TUESDAY, DECEMBER 15.

Institution of Civil Engineers.—Papers to be further discussed:—(1) "Tipping and Screening Coal," by Mr. James Rigg; and (2) "The Surface-Plant at Kirkby Colliery," by Mr. Thos. Gillott. Paper to be read, time permitting:—"Steel Skeleton Construction in Chicago," by Mr. E. C. Shankland. 8 p.m.

Royal Victoria Hall, Waterloo-road, S.E.—Mr. Francis Bond on "English Cathedrals." 8.30 p.m.

Carlisle Architectural, Engineering, and Surveying Society.—Mr. S. W. B. Jack on "The Modern Suburban Villa." 8 p.m.

WEDNESDAY, DECEMBER 16.

Architectural Association (Discussion Section).—Mr. R. Shekelton Balfour on "Pictorial Architecture." Mr. H. W. Brewer as Special Visitor. 7 p.m.

Society of Arts.—8 p.m.

Builders' Clerks' Benevolent Institution.—Special general meeting of donors and subscribers to elect a pensioner. 7.30 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting of the members. 8 p.m.

St. Paul's Ecclesiological Society.—The Rev. T. A. Lacey on "Ecclesiastical Habit." 7.30 p.m.

Northern Architectural Association.—Paper by Mr. A. B. Plummer on "The Diameters and Inclines of Drains, and the Flush, &c., Necessary for Household Purposes." 7.30 p.m.

THURSDAY, DECEMBER 17.

Society of Antiquaries.—(1) Miss F. Peacock on "A Seventeenth Century Mortar found in the Isle of Axholme." (2) Mr. H. Laverby, F.S.A., on "A Discovery of Late Celtic Pottery in Essex," (3) Mr. John Ward, F.S.A., on "Further Excavations in Barrows near Buxton, Derbyshire." 8.30 p.m.

Devon and Exeter Architectural Society (Plymouth Branch).—Mr. E. J. Jarvis on "Practical Plumbing." 7.30 p.m.

Dundee Institute of Architecture, Science, and Art.—Mr. Alexander M'Gibbon on "A Gothic Renaissance." 8 p.m.

FRIDAY, DECEMBER 18.

Architectural Association.—Mr. W. H. Seth-Smith on "A Plea for the Application to Architectural Design o Natural Forms as Revealed by the Microscope." With illustrations. 7.30 p.m.

Institution of Civil Engineers (Students' Meeting).—Mr. John W. Kitchen on "Wells, and Well-Sinking." 8 p.m.

Institution of Junior Engineers (Westminster Palace Hotel).—Paper on "Electric Central Station Working," by Mr. P. W. McDougall. 8 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

23,348.—SASH FASTENERS: *D. Waller, Jun.*—This invention is applicable to any window-sashes, and consists of a standard or bracket fixed to upper sash, and a screw in a nut attached to lower sash in such manner that when the meeting bars are together the screw can be brought to bear against the bracket, thus tending to force the sashes apart and to keep them from rattling.

25,020.—WATER-CLOSET SEATS: *W. S. Wallace.*—The invention has for object to provide a comfortable and sanitary seat. The seat itself consists of a non-porous baseplate, of porcelain, metal, marble, or other non-porous substance. The usual opening therein is recessed on its upper face from the front to a point at or near the rear of opening. Into this recess a rim or insertion of wood, rubber, compressed paper, &c., is fixed.

27.—CASEMENT WINDOWS: *C. Ower.*—The inventor proposes to construct casement windows so that the sashes may open either inwards or outwards, also to improve their wind, water, and thief-resisting qualities, and, moreover, to permit of their being fixed at any degree of openness without the use of the usual quadrant, &c. This is thus effected: On the inside of frame, the parts corresponding to the "stops" or inner beads in an outwardly opening window, are hinged vertically so as to be folded backward when it is desired to open sash inwards, and are so formed as to engage with the side bars of the sash, and when it is folded within frame they will be locked. Water bars are provided in all positions in which water may have access. The locking apparatus consists of a metal bar working in a groove, and operated by metal keys.

154.—CASEMENT STAY: *F. W. Cope and Another.*—Consists in a bracket secured to window-frame, whose upper part is capable of a swivelling action, through such swivelling part is carried the stay-rod in swivelling action. This stay-rod is provided with a series of teeth or gaps. When it is being moved to desired position, it slides readily thither, but when position is attained, by giving rod, say, a half-turn, the teeth or notches on it engage with similar projections in bracket, and firmly fix casement into position.

6,815.—SECURING SASH-LINES: *J. Browne.*—Inventor adopts the combination of a plate with a circular opening in centre and a vertical slot from this to top of plate. The line being passed down slot and knotted in hole on opening.

21,565.—WINDOWS: *R. L. Brown.*—The sash, sliding in a frame in ordinary manner, is suspended by a cord attached to centre of upper bar, to a drum or roller carried on a shaft secured to top of frame. The drum contains a spring, and one side of the sash is provided with a rack bar. It results that when the sash is pulled downwards against the tension of the spring in drum, the rack bar moves over a pawl or end of an arm and holds window in any position.

8,718.—BUILDING PRESERVATION COMPOSITION: *E. Morrice.*—Inventor forms a liquid composition for coating or preserving stone, brick, woodwork, &c., by mixing in water, whiting, starch, boiled oil, soft soap, copperas, size, cream of tartar, and turps.

NEW APPLICATIONS FOR LETTERS PATENT.

NOVEMBER 23.—26,445, P. Hall, Water-closets and Urinals.—26,448, J. Lucas, Pavement Light.—26,450, E. Hodgkinson, Gutter Tiles for Roofing Tiles.—26,458, E. Green, Channel Junctions and Channels for Inspection Chambers.—26494, P. Gadot, Flushing Cisterns for Water-closets.

NOVEMBER 24.—26,568, M. Adams, Water-closets and Valves for same.—26,570, M. Adams, Form and Manufacture of Channel Ends.—26,571, M. Adams, Tip-up Lavatory Basins.

NOVEMBER 25.—26,669, J. Harley, Corrugated Iron Roofing.—26,703, G. Tomkinson, Preventing Draught underneath Doors.—26,706, H. & G. Law, Screw-driver.—26,711, G. Sonnenthal, "Squares."—26,713, E. Jackson, Lead Bars for Lead Glazing.—26,744, J. Duckett & Son, Limited, J. Duckett, & F. Button, Waste-water Closets.—26,763, V. and G. Jetley, Roofing Tiles applicable for Walls, &c.—26,773, J. Goodwin, Sash Sockets.—26,790, E. Milo, Process for Wood Decoration.

NOVEMBER 26.—26,795, J. Stott, Ventilation and the Warming and Cooling of Theatres, Churches, Chapels, &c., having one or more seating galleries.—26,835, G. Geisel, Concrete Bridges.—26,844, P. Davey and F. Mills, Sanitary Water-closet Seats.—26,847, J. Moffat, Fireproof Floors, Ceilings, Walls, and Partitions.—26,853, L. Fraser, Bolts for Doors.—26,868, T. Sibley, Tiles.—26,874, F. Burger, Whitelead.

NOVEMBER 27.—26,925, E. Howl, Syphon-Flushing Cisterns.—26,946, E. Bloom and Others, Paint Brushes, &c.—26,955, W. Mumford, Picture-frame Cramps, &c.—26,985, F. Aaaron, Painting Brushes.—26,991, L. Watson, Attaching Door Knobs to Spindles.—27,004, L. Ganby, Device for use in building Scaffolds, &c.

NOVEMBER 28.—27,037, T. Jamieson, Chimney Cowls and Ventilators.—27,038, J. & C. Bedford, Varnish.—27,051, S. Houghton, Rubber for Binding Slates and Tiles and a Permanent Roof for all Kinds of Buildings.—27,106, C. Gagelmann, Construction of Masonry work.—27,116, Tonks, Limited, and I. Whiting, Spring Hinges and Door Springs.

PROVISIONAL SPECIFICATIONS ACCEPTED.

22,653, J. Cowell, Self-acting Cupboard and the Like, Door Fasteners.—23,453, H. Davies, Joiner's Bench-stop.—23,456, J. Warman, Box Door Latches for House Doors, &c.—23,974, S. Rolfe, Supplying Disinfectants to Water-closets, Urinals, &c.—24,387, W. Cotter, Preparation of Walls for Pointing.—24,887, E. Sands, Operating Water-closets, &c., and Pumps and Valves therefor.—24,918, L. Messinesi, Device for use in Drilling or Boring Holes in Wood.—24,996, R. Ewing, Jointing Drain and other Pipes.—25,063, W. Hanlon, Supplying Disinfectants to Water-closets, Urinals, &c.—25,106 and 25,107, W. Rockliffe, Door Fastenings.—25,292, C. and G. Craig, Building Blocks and Method of Using Same.—25,304, H. Williams, Automatic Flush Tanks.—25,305, H. Williams, Form of Basin for Water-closet Latrines, &c.—25,380, H. Clay, Urinals.—25,421, W. Beer, Construction of Metal

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Mixed Schools, to cost about 900*l*.	Sutton St. Edmund's Sch. Bd.	5 per cent. on cost.	Jan. 30/97
*Plans for New School	Dudley Grammar Sch. Governors	30*l*. first and 20*l*. second premiums	Feb. 15

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Brickwork, Pinchampstead-road	Wokingham T. C.	Boro' Surv. Town Hall	Dec. 15
Additions to Station, Wells, Somerset	G.W.R. Co.	Engr. G.W.R. Taunton	do.
Sewering, &c. Shand and other streets, Grassendale, Lancs.	Garston U.D.C.	F. W. Bowden, C.E. Public Offices, Grassendale	do.
Granite Road Metal	Dover T.C.	Town Clerk, Castle Hill House	do.
Making-up Constable-road, Felixstowe	Walton, &c. U.D.C.	Surv. Town Hall, Felixstowe	Dec. 16
Houses, Mill of Allathan, Udny, N.B.		Willsone & Duffus, 146, Union-street, Aberdeen	do.
Sewer, Booth Town-road	Halifax Corp.	E. R. S. Escott, C.E. Town Hall	do.
Alterations to Crompton House, Filey, Yorks	F. Smith	J. Shepherdson, Archt. 14, Middle-st. South, Driffield	do.
Earthenware Pipes, &c. Facit, Lancs	Whitworth U.D.C.	Mr Rodley, Surv. Council Offices, Facit	do.
Paving Works	Halifax Corp.	E. R. S. Escott, C.E. Town Hall	do.
*Rebuilding Business Premises		Edgington & Summerbell, 17, Park-st. Windsor	do.
*Making-up and Paving Roads	Fulham Vestry	C. Botterill, Town Hall, Walham Green, S.W.	do.
*Alterations Goods Shed, Luton	Midland Ry.	Co.'s Architect, Cavendish House, Derby	Dec. 17
House, at School, Porth, Glam.	Governors	J. Rees, Archt. Pentre	do.
Dyeworks, Shipley, Yorks		Empsall & Clarkson, Archts. 7, Exchange, Bradford	do.
Alterations, &c. County Hall, Aylesbury	Bucks C.C.	R. J. Thomas, Coun. Surv. County Hall	do.
Two Cottages, Coldblow, nr. Lucan, Ireland	Celbridge Union	S. Manning, Board Room, Celbridge	Dec. 18
*Four Houses, Chiswick	W. Portch	T. S. White, 318, High-rd. Chiswick	do.
Cottage, Newton-by-the-Sea, Northumberland	T. Lamb	M. T. Wilson, Archt., 69, Narrowgate, Alnwick	Dec. 21
Workhouse Alterations	Keynsham Union	H. M. Bennett, Liverpool-chambrs. Corn-st. Bristol	do.
Wesleyan Chapel, Marsden, Yorks		J. Kirk & Sons, Archts. Huddersfield	Dec. 24
School, &c. Cross Keys, Mon.	Risca Sch. Bd.	T. S. Edwards, Clerk, 29, High-st. Newport, Mon	do.
*Roadmaking and Paving	Walthamstow U.D.C.	G. W. Holmes, Town Hall	do.
*Guernsey Granite	West Ham Union	Clerk, Guardians' Office, Leytonstone, E.	Dec. 23

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Schools	Fenny Stratford S. B.	J. Chadwick, Archt. Fenny Stratford	Dec. 22
Sewering, &c. Several Roads	Ilkley U.D.C.	W. A. Pollitser, Surv. Ilkley	do.
Additions to Asylum, Derby	West Bromwich Corp.	H. F. Gadsby, Town Hall	Dec. 24
Police Station, &c. Hill Top		A. D. Greatorex, Boro. Surv. Town Hall	Dec. 28
*Constructing Puddle Wall, &c.	Whitby Waterwks Co.	J. Mansergh, 5, Victoria-street, S.W.	do.
Sewerage Works, Lye, Wollescote, &c	Halesowen R.D.C.	W. Fiddian, Surv. Town Hall, Stourbridge	Dec. 29
*Well sinking, &c.	Hull Corp.	T. J. Beneroft, Town Hall, Hull	do.
*Additions to Workhouse	Isle of Wight Union	J. I. Barton, 1, St. Thomas-street, Ryde, I. of W.	Dec. 30
*Alterations to Workhouse, &c.	Durham Union	H. I. Gradon, Market-place, Durham	Jan. 1/97
*Works and Materials	St. George's, Hanover-sq. Vestry	G. Livingstone, 1, Pimlico-rd. S.W.	do.
*Underground Convenience	St. Martin's-in-the-Fields Vestry	C. Mason, Vestry Hall, Charing Cross-rd. W.C.	Jan. 4
*Main Sewer	R. and W. Molesey U.D.C.	J. Stevenson, Council Offices, East Molesey	do.
*Cast-Iron Ventilating Columns	Beckenham U.D.C.	J. A. Angell, Council Offices	do.
Rebuilding St. David's Church, Exeter	Committee	W. D. Caroe, 8a, Whitehall-place, S.W.	Jan. 9
*Sewerage Work, Gas-Engines, Pumps, &c.	Southend-on-Sea Corp.	J. Mansergh, 5, Victoria-street, S.W.	Jan. 11
*Extension of Buildings	University College of Wales	T. R. Morgan, 12, Baker-street, Aberystwyth	Jan. 12
Shops and Offices, Crane-street	Pontypool U.D.C.	R. Williams, Archt. Osborne Chambers, Pontypool	Jan. 18
*Block of School Buildings	West Ham Sch. Bd.	W. Jacques, 2, Fen-ct. E.C.	Jan. 26
*Construction Arabic Museum and Library, Cairo	Egyptian Government	Ministry of Public Works, Cairo	Feb. 1
Two Houses and Shops, Bracknell, Berks.	Raven & Co.	A. R. Gidford, Archt. Wokingham	No date
Residence, Maison Rouge, Buxton	F. Smallman	W. Sugden & Son, Archts. Leek, Staffs.	do.
Sewering and Kerbing, Lacy-street, Stretford, Manchester		J. Bowden, Surv. 14, Ridgefield, Manchester	do.
Roads and Sewers, St. Cuthbert Estate, Bedford	Hotson & Martin	R. Lund, Archt. 6, St. Paul's-square, Bedford	do.
*New Road and Sewers		H. Dyball, 35, Buckingham	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Manager or Contractor's Agent	Torquay T.C.	3*l*. 3*s*. per week	Dec. 20
*Surveyor and Inspector of Nuisances	Slough U.D.C.	200*l*. per annum inclusive	Dec. 31
*County Surveyor	Hants C.C.	800*l*. per ann. Travelling expenses; 120*l*. per ann. clerical assistance	Jan. 4/97

Those marked with an asterisk (*) are advertised in this Number. Competitions, p. iv. Contracts, pp. iv., vi., & viii. Public Appointments, pp. xvi. & xix.

Bridges, &c.—25,530, T. Taylor, Bonds or Ties for Ordinary and Cavity Walls.—25,665. J. Duckett & Son, Limited, and Others.—Muffled and Semi-Muffled Kilns.—25,777, G. Howitt, Joints for Woodwork.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

978, E. Edwards, Door Hinges.—1,301, H. Dakin, Syphon Cisterns.—1,408, G. Falconer, Blocks or Slabs for Flooring, Paving, &c.—1,626, W. Horsfall and R. Berry, Floors, &c.—1,835, K. McKenzie, Cowls.—1,882, J. Innocent, Edge Tools.—2,498, E. Codling, Inspection and Cleansing Junction for Drains, Sewers, &c.—2,714, J. Dransfield, Chisel for Cutting Stone, &c.—3,128, W. Smith, Hinge.—3,237, F. Hodgess, Stop Blocks for Sink Pipes, &c.—6,965, E. Green, Water-closets.—8,563, J. Lumsden, Window Fittings.—17,047, W. Reay, Fasteners for Window Sashes.—23,404, A. Boult, Dowel Pins and Joints.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

November 26.—By H. HENDRIKS (at Birmingham).

Stirchley, Worcester.—40 and 42, Ivy-rd., f. £330
Ivy-rd., "Holly Cottage," f. 200

By A. & G. GUIVER.

Ponder's-end.—Alma-rd., "The Jolly Waggoners" p.h. and plot of land, u.t. 56½ yrs., g.r. 50*l*. (including other property), r. 30*l*. 1,320

By A. A. HOLLINGSWORTH.

Shoreditch.—18, Hewitt-st., u.t. 60½ yrs., g.r. 30*l*., r. 90*l*. 900
14 and 16, Hewitt-st., u.t. 61 yrs., g.r. 115*l*., r. 200*l*. 1,000

By NEWBON & Co.

Hornsey.—41, Lightfoot-rd., f., r. 30*l*. 365
Hampstead-rd.—28, Mornington-cres., u.t. 22 yrs., g.r. 21*l*., r. 63*l*. 235
Euston-rd.—1 and 3, Drummond-st., u.t. 14 yrs., g.r. 10*l*. 325
Caledonian-rd.—Cumming-st., &c., l.g.r. 10*l*. 9*s*., u.t. 27½ yrs., g.r. 1*l*. 110
George-st., a six-thirteenth share of l.g.r. 78*l*., u.t. 27½ yrs., g.r. 20*l*. 225
Pentonville.—5, Upper Vernon-st., u.t. 23 yrs., g.r. 4*l*., r. 50*l*. 300
Bow.—10 and 12, Morville-st., u.t. 53½ yrs., g.r. 7*l*. 415

By STIMSON & SONS.

Forest Hill.—Brockley-rise, f.g.r. 39*l*., reversion in 90 yrs. 1,170
Anerley.—Tremaine-rd., a plot of building land, f. 410
Samos-rd., &c., two plots of building land, f. 175
Holloway.—93, George's-rd., r. 30*l*., and l.g.r. 47*l*., u.t. 53 yrs., g.r. 23*l*. 140
Wapping.—45 and 46, Great Hermitage-st., f., r. 83*l*. 850
Beckenham.—13, Langley-rd., f., r. 22*l*. 10*s*. 245
Camberwell.—37 to 45 (odd), Lowth-rd., u.t. 27½ yrs., g.r. 10*l*., r. 149*l*. 770
Brixton.—21, Josephine-av, u.t. 69 yrs., g.r. 9*l*., r. 48*l*. 380
195, Coldharbour-lane, u.t. 19½ yrs., g.r. 7*l*., r. 45*l*. £250
Norwood.—27, Birkbeck-rd., u.t. 85 yrs., g.r. 5*l*., r. 24*l*. 200
42 and 44, Albert-rd., u.t. 83 yrs., g.r. 10*l*. 160
Kingston, Surrey.—1 to 6, Gower-ter., u.t. 81 yrs., g.r. 22*l*. 10*s*. 490

By DOUGLAS YOUNG & Co.

Streatham, Bank-parade.—Banking premises, u.t. 83 yrs., g.r. 15*l*., r. 120*l*. 2,120
2 to 13, Bank-parade, u.t. 83 yrs., g.r. 122*l*., r. 1,185*l*. 15,670
108 to 124 (even), Greyhound-lane, u.t. 83 yrs., g.r. 72*l*., r. 535*l*. 5,820
Brixton.—87, Upper Tulse-hill, u.t. 50 yrs., g.r. 16*l*. 10*s*., r. 175*l*. 2,000
85, Upper Tulse-hill, u.t. 51 yrs., g.r. 12*l*., e.r. 75*l*. 600
81, Upper Tulse-hill, u.t. 54 yrs., g.r. 14*l*., r. 65*l*. 700

By C. C. & T. MOORE (at Woodford).

Woodford.—3 and 4, Mornington-rd., u.t. 70½ yrs., g.r. 11*l*. 14*s*. 8*d*., r. 69*l*. 560

By BAXTER, PAYNE, & LEPPER (at Bromley).

Tatsfield, Surrey.—Two plots of building land, f. 100
Eltham, Kent.—1 to 4, Chislehurst-lane, and 2a. 0r. 11p., f. 1,310

By WORSFOLD & HAYWARD (at Dover).

Dover, Kent.—Priory-rd., "The Dover Tabernacle," f. 1,000

November 27.—By HIBBARD & SONS.

Clapton.—59 and 61, Rendlesham-rd., u.t. 72½ yrs., g.r. 10*l*. 505

By JONES, LANG & Co.

Hyde Park.—90, Gloucester-ter., 43 yrs., g.r. 10*l*., r. 140*l*. 1,555

By SEGRAVE, BROWETT, & TAYLOR.

Notting Hill.—72 and 74, Lansdowne-rd., u.t. 55 yrs., g.r. 30*l*., e.r. 130*l*. 675
Homerton.—68, Digby-rd., f., e.r. 40*l*. 350
Catford.—28, Beechfield-rd., u.t. 97½ yrs., g.r. 8*l*., r. 40*l*. 435
Lewisham.—146, Lewisham-rd., u.t. 11 yrs., g.r. 7*l*., r. 45*l*. 150

By VENTOM, BULL, & COOPER.

Rotherhithe. — Debnam-rd., "Harvey's Foundry," f., r. 41*l*. 5*s*. 350
Debnam-rd., f.r.g., 35*l*., reversions varying from 46 to 58 yrs. 715

By T. B. WESTACOTT.

Camden Town.—High-st., a profit rental of 41*l*. for 15½ yrs. 330

November 30.—By WALFORD & WILSHIN.

Norwood.—164, Selhurst-rd., u.t. 72 yrs., g.r. 16*l*. 5*s*., r. 65*l*. 610
Anerley.—23, Selby-rd., f., e.r. 45*l*. 470

December 1.—By C. W. DAVIES.

Islington.—2, Queen's Head-st. and 1 and 3, Prebend-st., u.t. 40 yrs., g.r. 5*l*., r. 67*l*. 2*s*. 670
Hoxton.—82, Wenlock-st., u.t. 45½ yrs., g.r. 5*l*. 5*s*., r. 36*l*. 335
Islington.—14, 16, 18, and 20, South-st., r. 104*l*.; also l.g.r. 2*l*., and a peppercorn g.r. u.t. 12 yrs., g.r. 10*l*. 225
Balls Pond.—6 and 7, Prospect-row, f., r. 46*l*. 3*s*. 380
Highbury.—188, Drayton-pk., u.t. 80 yrs., g.r. 7*l*., r. 30*l*. £250
Holloway.—3, Madras-pl., u.t. 48 yrs., g.r. 6*l*., r. 38*l*. 370

By F. DOD & Co.

Stoke Newington.—54, Lordship-rd., u.t. 49½ yrs., g.r. 7*l*., r. 35*l*. 320
Church-st., f.g.r. 120*l*., reversion in 29½ yrs. 6,965
169, High-st. and stable, f., r. 140*l*. 4,000
Tottenham.—36, Wingmore-rd., u.t. 80 yrs., g.r. 6*l*., r. 28*l*. 265

By DUNN & SOMAN.

Balham.—13 and 15, Oldridge-rd., f., r. 102*l*. 1,190
Sydenham.—30 to 33, Watlington-grove, u.t. 69½ yrs., g.r. 14*l*. 350

By FRASER & HEIGH.

Highgate.—31 and 33, Raydon-st., u.t. 83 yrs., g.r. 12*l*. 360

By F. WARMAN.

Hoxton.—1 to 14, Kent-st., f., r. 379*l*. 12*s*. 3,285
Highbury.—93, Highbury-quadrant, u.t. 53 yrs., g.r. 15*l*. 15*s*., e.r. 80*l*. 585

By DEBENHAM, TEWSON, & Co.

Islington.—Brooksby-st., f.g.r. 60*l*., reversion in 12 yrs. 4,700
Brooksby-st., f.g.r. 40*l*., reversion in 12 yrs. 2,320
Brooksby-st., three peppercorn g.r.s, reversion in 12 yrs. 700
Brooksby-st., f.g.r. 5*l*., reversion in 12 yrs. 3,630
Thornhill-rd., &c., f.g.r. 82*l*., reversion in 12 yrs. 7,400
Upper Park-st., twenty-one peppercorn g.r.s, reversion in 12 yrs. 5,620
Liverpool-rd., three peppercorn g.r.s, reversion in 12 yrs. 915
Barnsbury-sq., "Mountfort Lodge," f., r. 50*l*. ... 800
4, 5, and 6, Mountfort-cres., f., r. 146*l*. 2,115
1 to 4, Mountfort-ter., f., r. 288*l*. 2,180
347, Liverpool-rd., f., r. 55*l*. 970
375, Liverpool-rd., f., r. 38*l*. 665
377 and 379, Liverpool-rd., and 154, Offord-rd., f., r. 80*l*. 1,300
144 to 152 (even), Offord-rd., f., r. 210*l*. 2,280
Brighton.—18, Castle-sq., and 57 and 58, Old Steine, f., r. 270*l*. 6,900

By A. SAVILL & SON (at Grays).

West Thurrock, Essex.—"Home Farm," 13a. 2r. 17p., f. 1,920

By MARK JEANS (at Pewsey).

Pewsey, Wilts.—"Kepnal Manor House," and 3a. 2r., f. 445

By J. HOPPER (at Hawes).

Hawes, Yorks.—"East Shaw Farm," 93a. 2r. 39p., f. 1,370
Bainbridge, Yorks.—"Carr End Farm," 97a. 2r. 21p., f. 1,750
Hawes, Yorks.—Enclosures of land, 5a. 2r. 37p., f. 300
"Bridge House," f. 480

By THORNBORROW & Co. (at Penrith).

Penrith, Cumberland.—"Bowerbank Hall" and 3a. 1r. 12p., f. 600
Folly-lane, "Victoria Cottage," f. 1,000

December 2.—By ELLIS, MORRIS, & Co.

Mile End.—21 and 23, Longnor-rd., u.t. 68 yrs., g.r. 7*l*., r. 52*l*. 340

De Beauvoir Town.—55, Mortimer-rd., u.t. 21 yrs., g.r. 5*l.* 12s. £205

By WALTER HALL.

Haverstock-hill.—21, Rochfort-st., u.t. 89 yrs., g.r. 10*l.*, e.r. 70*l.*.. 355

By T. G. WHARTON.

Upton-pk.—Plashet-rd., l.g.r. 40*l.*, u.t. 96½ yrs., g.r. 1*l.* 7s. 3d..... 875

Wandsworth.—160, Earlsfield-rd., u.t. 94¾ yrs., g.r. 6*l.* 10s. 315

By J. & R. KEMP & Co.

Bloomsbury.—25, Torrington-sq., u.t. 27½ yrs., g.r. 20*l.*, r. 90*l.* 675

Hyde-pk.—25, Montagu-st., u.t. 26¾ yrs., g.r. 20*l.* 900

Mayfair.—6 to 12, Ducking Pond-mews, u.t. 53 yrs., g.r. 165*l.*, r 360*l.* 15s. 380

Regent-st.—12 and 12a, West-st., u.t. 30½ yrs., g.r. 35*l.* 5s., r. 115*l.* 10s. 820

King's-cross.—106, 108, and 110, York-rd., u.t. 45½ yrs., g.r 6*l.*, r. 135*l.* 10s. 1,155

York-rd., i g.r. 15*l.*, u.t. 45½ yrs , g.r. 2*l* 215

Notting-hill.—52, Princes-rd., u.t. 52 yrs., g.r. 6*l.* 5s., r. 27*l.* 180

Hampstead-rd.—No. 68, u.t. 11¾ yrs., g.r. 22*l.*, r. 52*l.* 10s. 200

Tottenham Court-rd.—47, Whitfield-st., f., r. 50*l.* 900

Marylebone.—Charlotte-st., "The Queen's Arms," p.h., f., r. 100*l.* 1,200

By TOOTH & TOOTH (at their Rooms).

Hackney.—60, Devonshire-rd., u.t. 50½ yrs., g.r. 5*l.*, r. 30*l.* 255

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.

Greenheart, B.G.	ton	£8/0/0 £9/0/0
Teak, E.I. ..load		12/0/0 16/0/0
Sequoia, U.S.P.cu		0/0 0/1
Ash, Canada load		2/10/0 3/15/0
Birch, do.		3/10/0 5/5/0
Elm, do.		3/10/0 4/15/0
Fir, Dantsic, &c..		3/10/0 4/10/0
Oak, do.		2/10/0 3/10/0
Canada		4/15/0 5/15/0
Pine, Canada red		0/0/0 0/0/0
Do. Yellow		3/0/0 4/0/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg..		5/10/0 6/10/0
Wainscot, Riga &c., log....		2/10/0 4/15/0
Odessa, crown....		2/10/0 4/15/0
Deals, Finland end & 1st std 120		2/12/0 3/0/0
Do. 4th & 3rd ..		2/10/0 2/0/0
Do. Riga		7/0/0 8/0/0
St. Petersburg, 1st yellow....		20/1/0 13/0/0
Do. 2nd yellow		9/10/0 10/10/0
Do. white		9/0/0 11/0/0
Swedish.....		8/10/0 16/0/0
White Sea.....		10/0/0 16/12/0
Canada, Pine 1st		21/0/0 23/10/0
Do. do. 2nd		15/0/0 17/0/0
Do. do. 3rd, &c.		7/10/0 8/0/0
Do. Spruce, 1st.		9/0/0 10/10/0
Do. do. 3rd and 2nd		7/10/0 8/15/0
New Brunswick		7/5 0 7/15/0
Battens, all kinds		5/0/0 10/0/0
Flooring boards, sq., 1 in. prep. 1st.		0/0 6 0/16,6
Do. 2nd.....		0/10 0/13 0
Other qualities—		0,0,0 0/1/6
Cedar, Cuba, ft.		/4 /5
Honduras, &c.		/4 /5
Mahogany, Cuba		/4 /8
St. Domingo cargo av.		/4 2/8
Mexican, do. do.		/4 /5
Tobasco, do. do.		/5 /7
Honduras, do. ..		/5 /4
Box, Turkey ton		4/0/0 15/0/0
Rose, Rio.....		7/0/0 18/0/0
Bahia		8/0/0 15/0/0
Satin, St. Doming		0/0/7 0/1/0

TIMBER *(continued)*.

Satin, Porto Rico	0/0/7	0/1/6
Walnut, Italian ..	0/0/3	0/0/7

METALS.

Iron—Pig, in Scotland .....ton	2/8/0	0/0/0
Bar, Welsh, in London	5/15/0	5/17/6
Do. do. at works in Wales.....	5/10/0	5/12/6
Do. Staffordshire, in London.....	5/15/0	6/10/0
COPPER—British cake and ingot	52/0/0	52/10/0
Best selected ..	53/0/0	53/10/0
Sheets, strong.	58/10/0	59/10/0
Chili bars	48/12/6	0/0/0
YELLOW METAL	0/0/5	0/0/5½
LEAD—Pig, Spanish ....ton	12/10/0	12/12/3
English com. brands	12/12/6	12/15/0
Sheet, English 6 lbs. per sq. ft and upwards ..	12/10/0	0/0/0
Pipe	13/./0	0/0/0
ZINC—English sheet.....ton	22/10/0	0/0/0
Vieille Montagne	21/10/0	0/0/0
Spelter	17/12/6	17/15/0
TIN—Straits	58/2/6	0/./0
Australian.....	60/0/0	0/0/0
English Ingots..	62/0/0	63/0/0
Banca	60/10/0	61/0/0
Billiton	59/15/0	60/0/0

OILS.

Linseed .....ton	15/5/0	0/0/0
Cocoanut, Cochin	28/0/0	0/0/0
Do. Ceylon	24/0/0	0/0/0
Palm, Lagos	24/10/0	0/0/0
Rapeseed, English pale.....	28 10/0	0/0/0
Do. brown	27/0/0	27/10/0
Cottonseed ref. ..	22/17,6	16/10/0
Oleine.....	18,10/0	19/10/0
Lubricating U.S.	0/6/3	0/7/6
Do. black	0/4/9	0/6/6
TAR—Stockholm barrel	1/2 0	0/0/0
Archangel.....	0/12/6	0/0/0
Turpentine.....ton	2/15/0	0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays*. N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender: and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

BATH.—For the erection of a malthouse, for the Bath Brewery, Limited. Mr. F. W. Gardiner, architect, Bath. Quantities by Messrs. Amor & Underwood, Bath:—

Heyward & Wooster	£5,999	Wibley	£5,268
Field	5,481	Forse	5,220
Martin	5,383	Long & Sons, Bath*	4,943

* Accepted.

BERVIE (N.B.).—For the execution of sewerage works, &c., for the Town Council. Mr. John Sim, Engineer, 260, High-street, Montrose:—

Goodfellow & Peter, Bervie £460

BRISTOL.—For the erection of a leather factory, Old Market-street, for Mr. F. F. James. Mr. Fred. Shove, architect, Clare-chambers, Bristol. Quantities by architect:—

E. Love	£2,400	T. Perkins	£2,095
W. Church	2,346	H. A. Forse	2,000
J. E. Davis	2,234	E. Walters..	1,995
W. J. Chinchen	2,200	J. James.....	1,980
Wilkins & Gosling	2,129	Hughes & Weeks, Bristol*	1,752
Bale & Westlake	2,100		

* Amended and accepted.

CARDIFF.—For the erection of public abattoirs, &c., Barry, for the Urban District Council. Mr. J. C. Pardoe, C.E., Council Offices, Barry:—

For Buildings.

Rendell, Corp, & Motton	£5,020 14 2	James Allan	£4,169 8 7
Lattey & Co.	4,426 7 4	E. R. Evans Bros...	4,028 0 0
Jones Bros.	4,337 17 10	Geo. Ruller, Barry *	3,906 4 10

For Ironwork.

Geo. Kyle & Co....	£1,020 17 0	W. A. Baker & Co., Ltd., Newport *....	£875 8 9
Geo. Ruller	1,003 14 8		

* Accepted.

CASTLEMAINE (Co. Kerry).—For the erection of the parish church, for the Rev. James Counihan. Mr. W. G. Doolin, architect, Dawson Chambers, Dublin:—

Daniel Hayes	£3,408 14 2	James Thornton....	£2 370 0 0
John Sisk	2,870 0 0	John B. Healy, Tralee*	2,350 0 0
Cotter & Clifford ..	2,372 19 5		

* Accepted.

COLCHESTER.—For the erection of vagrant cells at workhouse, for the Union Guardians. Mr. G. H. Page, architect, Trinity-chambers, Colchester:—

A. E. Diss	£2,145 0	Everitt & Son	£1 852 0
A. Diss	2,100 0	Beaumont	1,834 12
G. Dobson	1,985 0	W. Chambers.....	1,789 0
F. Dupont	1,982 0	G. Farren, Colchester*.	1,775 0

* Accepted.

CROYDON.—For erecting stabling for seventy-five 'bus horses, "Swan and Sugar Loaf" yard, Brighton-road. Mr. A. Broad, architect, 3, High-street, Croydon. Quantities by the architect:—

W. Smith & Son	£2,120	E. T. Saunders...	£1,820
T. Smith & Sons.....	1,950	S. Page	1,795
E. P. Bulled & Co.	1,892	J. Horrocks	1,790
Elgar & Burbridge	1,856	D. W. Barker	1,776
W. Marriage & Co.	1,800	A. Bullock.....	1,746
S. Hart	1,880		

DOVER.—For the execution of road works, building bridge, &c., Crabble-road, for the Town Council. Mr. H. E. Stilgoe, C.E., Borough Engineer:—

S. Kavanagh	£1,127 16 8	H. T. Hill	£969 0 0
G. Lewis & Sons....	1,120 0 0	Austen & Lewis....	952 15 0
G. Munro	1,092 0 0		

DOWNE.—For additions and alterations to private residence at Downe, Kent. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, E.C., and Orpington. Quantities by Messrs. Stanger & Son:—

T. Gregory & Co.	£1,193	Somerford & Son	£1,115
R. Durtnell	1,172	Crossley & Son	1,113
W. Holt & Son	1,129	T. D. Crasty*	1,051

* Accepted as modified.

EALING.—Accepted for erecting a house at Ealing for Mr. J. B. Lofting. Mr. Temple Moore, architect, 37, Old Queen-street, S.W.:—

F. G. Minter, Westminster £1,575

[No competition.]

HAROLD WOOD.—Accepted for the erection of private residence at Harold Wood, Essex. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, E.C., and Orpington:—

Thompson & Meddings £705

[No competition.]

KILBRIN (Ireland).—Accepted for the erection of a teacher's residence, Curraghs, Kilbrin-Kanturk, Ireland, for Mr. L. Collins. Mr. Woodcriffe, Architect to Board of Works, Ireland:—

J. Field, Knockordfree, Kilbrin-Kanturk, Ireland..... £230

KING'S LYNN.—For building ten cottages, two shops and residences, and two villa residences, at North End, King's Lynn, for Mr. F. Savage. Messrs. Colman & Thomas, architects, King's Lynn:—

H. Rands & Son ..£3,903	8 2	Collins & Barber ..£3,470	0 0
J. C. Bateman.....	3,762	4 3	Medwell & Foreman	3,430	6 11
K. Dye	3,744	0 0	W. H. Brown	3,348	19 6
R. Fayers.....	3,704	0 0	Read, Wildbourr, & Co, Limited.....	3,207	0 0
J. Bone	3,685	0 0	
Elworthy & Son ..	3,628	0 0	C. Fryer.....	3,699	6 6
S. Hipwell.....	3,606	0 0	P. Smith.....	3,667	6 10
Bardell Bros.	3,459	0 0	

LEE (Kent).—For paving, kerbing, &c., Handen-road, for the Lee Board of Works:—

W. Wheeler, London..... £570

LEEDS.—For the erection of seven back-to-back houses Hardy-street and Hardy-terrace, Lodge-lane, Beeston Hill, for the Industrial Co-operative Society, Limited. Mr. W. H. Rawnsley, architect, 21, Crawford-street, Leeds:—

Excavating.

Firth & Slater, Wesley-street, Beeston, Leeds, 11s. 6d. per yard.

Slating.

Sharp & Harper, Water-lane, Leeds £61 10

Plastering.

J. D. Dakin, Towers View, Woodhouse, Leeds ..£100 0

LLANDRIDOD WELLS.—For the erection of school buildings. Mr. H. Teather, architect, 92, St. Mary-street, Cardiff. Quantities by the architect:—

E. G Groom	£2,700	Rowland & Lloyd.....	£2 670
W. Marriage & Co.	2,740	A. & D. Parfitt	2,488
R. Morgan	2,736	W. Bowers & Co., Hereford*	2,470
A. Meredith.....	2,730		
R. E. Davies	2,712		

* Accepted.

LLANGENNECH (Wales).—For the erection of two houses. Messrs. Davies & Sons, architects, Cowell House, Llanelly:—

Lewis Bros.	£465 13	Wm. Thomas, Llangennech (accepted)	£349 10
Thomas & Rosser	354 15		

LLANIDLOES (Wales).—For the erection of the County Intermediate Schools. Mr. H. Teather, architect, 92, St. Mary-street, Cardiff. Quantities by the architect:—

B. Jenkins	£2,503 0	R. Morgan	£1,988 0
E. H. Williams..... ..	2,225 0	Rowland & Lloyd	1,875 0
W. Bowers & Co.....	2,190 0	J. Jones Meredith, Llanidloes*	1,734 16
W. Marriage & Co. ...	2,020 0		

Accepted.

LLANWRTYD (Wales).—For additions, &c., to the "Dolecoed Hotel." Mr. H. Teather, architect, 92, St. Mary-street, Cardiff. Quantities by the architect:—

John Jones Meredith ..£2,456	0	W. Marriage & Co.....£1,990	0
Daniel Price	2,190	0	R. Morgan	1,920	0
W. Bowers & Co.....	2,158	16	A. Meredith, Newbridge-on-Wye*	1,798	0
John D. Williams.....	2,065	0	

* Accepted.

LONDON.—Accepted for the building of twenty cottages at Fulham. Mr. W. H. Tucker, architect, Bank Buildings, Walham Green:—

John Leeder £3,500

LONDON.—For warehouse, New Inn-yard, Shoreditch. Mr. W. H. Punnett, architect:—

T. E. Todd	£749	Cogman.....	£555
W. Shurmur	666		

LONDON.—For new warehouse, &c., at Golden-lane, for Messrs. Sutton & Co. Mr. J. Hamilton, architect:—

Bywaters & Son.....	£8,278	Chessum & Son	£8,239
W. Shurmur.....	8,252	Lawrence & Co.....	7,701
C. Cox	8,250	B. E. Nightingale	7,689

LONDON.—For warehouse at Tottenham-road, Kingsland. Mr. R. Dixon, architect:—

W. Shurmur.....	£1,699	W. Barker.....	1,689
Patman & Fotheringham	1,690		

LONDON.—For shop, &c., at Dalston-lane, N.E. Mr. J. Hamilton, architect:—

W. Shurmur.....	£891	G. W. Beale.....	£819

LONDON.—For rebuilding the "Marquis of Cornwallis" public-house, Pentonville. Mr. H. Tasker, architect:—

Willmot	£5,046	W. Shurmur.....	£4,390
Lascelles & Co.	4,682	Hunt & Son.....	4 344
Perkins & Co.....	4,691	J. Dearing & Son	4,302
Beer & Gash	4,571	W. Reason	4 295
Barrett & Power	4,492		

LONDON.—For new slaughterhouses, &c., at the Foreign Cattle Market, Deptford, for the Corporation of the City of London. Mr A. Murray, Surveyor:—

Kirk & Randell	£6,880	W. Shurmur.....	£6,381
Atherton & Dolman	6,712	Mowlem & Co.	6,291
Dove Bros.	6,495	Bird & Co.	6,042
Lawrence & Sons	6,410	Perry & Co.	5,982
Patman & Fotheringham..	6,402	Rudd & Son	5,666

LONDON.—For warehouse at Bethnal Green, for Mr. H. Borton. Mr. W. Stone, architect:—

J. O. Richardson	£1,682	Harris & Wardrop	£1,505
E. Roome.....	1,615	Forrest & Co.	1,499
W. Gladding	1,587	W. Beale	1,439
G. C. Higgs.....	1,571	Richardson Bros.	1 437
W. Shurmur.....	1,566	Jarvis & Son	1,424
J. E. Todd	1,553	J. H. Johnson	1,415
Gregar & Son	1,527	W. Johnson	1,392
W. Steed	1,510		

LONDON.—For alterations to the "Odell Arms," Chelsea. Mr. H. Williams Mellor, architect, Trafalgar-buildings, Charing-cross:—

W. Johnson & Co., Ltd...	£1,425	F. G. Minter.....	£1,360
F. T. Chinchin	1,402		

LONDON.—For alterations to the "White Swan," Shoreditch. Messrs. Crickmay & Sons, architects:—

E. Lawrence & Sons	£2,303	I. Anley.....	£2,162
Antill & Co.....	2,235	F. G. Minter	2,051

LONDON.—Accepted for rebuilding 92, Chancery-lane. Mr. G. D. Martin, architect, 3, Pall Mall:—

F. G. Minter £1,650

[No competition.]

LONDON.—For new building on site of Nos. 4 and 5, Steward-street, Spitalfields, E. Mr. Alfred Conder, architect:—

J. Grover & Son....£2,834	0 0	G. Newton £2 557	4 6
L. H. & R. Roberts	2 588	0 0	Stimpson & Co.	2,504	0 0
E. Toms	2,567	0 0	W. Akers & Co.....	2,469	0 0
Pritchard & Renwick	2,560	0 0	J. Chapman*	2,293	0 0

* Accepted.

LONDON.—For alterations and additions, Holborn Bars, E.C.:—

	Estimate A.	Estimate B.	Estimate C.	Total.
Courtney & Fairbairn	£283	£161	£263	£707
W. Melbourne	285	137	281	703
Dove	190	110	230	530

LONDON.—Accepted for the erection of a timber stable on the Midland Railway Coal Wharf, West Hampstead, for Messrs. Charrington, Sells, Dale, & Co.:—

W. Marks, Fulham £252 5

LONDON.—For the second contract for superstructure and alterations, Berkely Hotel, Piccadilly. Mr. G. Grigg, architect:—

J. Mowlem & Sons	£15,862	T. Stevens	£14,947
Kirk & Randell	15,547	Mark Patrick	12,700

LONDON.—For rebuilding warehouse at 17, Charlotte-street, for the trustees of the late Mr. T. Miller. Messrs. Heeles & Wrightson, architects. Quantities by the architect:—

Grover & Son	£1,634 0	Thomerson	£1,475 0
Chessum	1,550 0	Jarvis & Sons	1,284 0
J. Welbking & Sons ..	1,475 15		

LONDON.—For building two extra rooms in the roof of 81, Farringdon-road, for Messrs. H. Williamson, Limited. Mr. J. H. Richardson, architect:—

Beer & Gash.....	£491 0	Ivory	£330 0
Hooper	398 0	J. Welbking & Sons	283 15
Palmer	332 0		

LONDON.—For alterations at "The Crown" Hotel, High-road, Gunnersbury, Chiswick. Mr. W. H. Tucker, architect, Bank Buildings, Walham Green, London:—

Cole	£622	C. Rogers.....	£533
Flaxman	598	L. L. Leeder & Co.*	443
Hammond	567		

* Accepted.

LONDON.—For alterations and additions and bar fittings to "The Blackstock Park Hotel," Blackstock-road, N., for Mr. E. Morgan. Messrs. Treacher, Son, & Fisher, architects. Mr. Wm. Hawker, surveyor:—

Anley	£4,276	Burman	£3,582
Godson	4,225	Coulsell.....	3,543
Drew & Cadman	3,990	Dearing.....	3,518
Wilkinson	3,753	Downs	3,430
Lascelles	3,602	Gould & Brand	3,314

LONDON.—For alterations at the "King's Head Tavern," Wandsworth, for Mr. R. S. Chattey. Messrs. Treacher, Son, & Fisher, architects. Mr. Wm. Hawker, surveyor:—

Goodall	£2,948	Edwards & Medway	£2,543
Lascelles	2,803	Gould & Brand	2,385
Burman	2,652	Grant	2,224

LONDON.—For alterations and additions to "The Castle" public-house, 81, Holloway-road, N., for Mr. R. H. Bloxham. Mr. T. W. Willis, architect. Messrs. C. Stanger and Son, surveyors:—

Gladding	£1,896	King & Son.....	£1,820
Gerrard & Son.....	1,886	Outhwaite & Son	1,798
Worsley & Co.....	1,855	Gould & Brand	1,723

LONDON.—Accepted for erecting apsidal chapels at the Church of the Sacred Heart, Wimbledon. Mr. F. A. Walters, architect. Mr. J. B. Lofting, surveyor:—

F. G. Minter £2,600

[No competition.]

NOTTINGHAM.—For the erection of twelve almshouses, Woodborough-road, for the Corporation. Mr. A. Brown, C.E., Borough Engineer, Guildhall, Nottingham:—

Hoyes & Boyfield	£3,833	Thos. Barlow	£3,623
A. B. Clarke	3,709	H. Vickers, Wilford-road, Nottingham *	3,410
J. J. Adams	3,700		
J. Lewin	3,673		

* Accepted.

ORPINGTON.—For a pair of semi-detached villa-residences in Moorfield-road, Orpington, Kent. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, E.C., and Orpington:—

T. D. Crasty	£1,159	Somerford & Son	£856
T. Knight.....	889	W. Owen *	810
Stebbings & Pannett	885		

* Accepted.

ORPINGTON.—For a new infants' school, and alterations to present buildings, at the Wellington-road Schools, for the Orpington School Board. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, and Orpington. Quantities by Messrs. Stanger & Son:—

T. Knight	£1,494	T. D. Crasty	£1,220
Somerford & Son	1,308	Davis & Leaney*	1,182
Potter Bros.	1,257		

* Accepted.

ORPINGTON.—For the erection of stables at private residence at Orpington, Kent. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, E.C., and Orpington:—

T. Knight	£305 0	Somerford & Son	£378 0
R. A. Lowe	389 18	W. Owen	362 0

ORPINGTON.—For alterations and extensions to private residence at Orpington, Kent. Mr. St. Pierre Harris, architect, 6, Ironmonger-lane, E.C., and Orpington. Quantities by Messrs. Stanger & Son :—

E. Punnett & Son	£1,981	T. Crossley & Son	£1,883
D. Gaty	1,939	Gregory & Co.	1,877
R. A. Lowe	1,899	Somerford & Son*	1,837

* Accepted.

ORPINGTON.—Accepted for the erection of private residence at Orpington, Kent. Mr. St. Pierre Harris, architect, 3, Ironmonger-lane, E.C., and Orpington :—

Bayliss & Inman £3,066

[No competition.]

PORTSMOUTH.—For additions, &c., to Brewery, for the Portsmouth United Breweries, Limited :—

H. Clark & Son	£2,096	Spriggings & Co.	£1,770
W. Evans	2,083	H. Jones	1,735
W. R. Light	1,927	T. P. Hall	1,710
T. W. Quick & Sons	1,891	J. H. Cooke, Froddington-road, Southsea*	1,705
C. Harding	1,865		
J. Crockerell	1,840		

* Accepted.

READING.—For the erection of New Wilton House School, Bath-road, Reading. Messrs. Cooper & Howell, architects, Blagrave-street, Reading :—

J. H. Margetts	£5,425	Bottrill & Son	£5,213
T. E. Whiting	5,390	Geo. S. Lewis & Bro.	5,131
McCarthy E. Fitt	5,379	Higgs & Sons	5,130
Geo. Searle	5,340	Collier & Catley*	4,998

[All of Reading.]

* Accepted.

STOCKPORT.—For paving, sewering, &c., Chapel-street, for the Corporation. Mr. J. Atkinson, C.E., Borough Surveyor, St. Petersgate, Stockport :—

Worthington & Pownall	£952 2 0
P. D. & S. D. Hayes	930 2 10
W. Briscoe & Sons, Stockport (accepted)	898 13 10

STREATLEY (Berks).—For the erection of a detached residence, for Mr. Marsland A. Bennett. Messrs. Cooper & Howell, architects, 17, Blagrave-street, Reading :—

Geo. S. Lewis & Bro.	£1,625	Collier & Catley	£1,470
Thos. Higgs	1,498	J. Smallbone, Streatley*	1,428

* Accepted.

SWANLEY.—Accepted for private detached cottage at Moultain Hill, Swanley, Kent. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, E.C., and Orpington :—

J. Ward £250

TAVISTOCK.—For the erection of a pair of villa residences, for the Tavistock Land and Building Company, Limited. Mr. Wm. Squire, architect, Tavistock :—

H. B. Fuge	£2,120	W. H. Higman, Tavistock*	£1,842
Edwin J. Luke	2,032		
A. Andrews	1,960		

* Recommended for acceptance.

TONBRIDGE.—Accepted for the supply of 62 tons of 4 in. granite cubes, for the Tonbridge Urban District Council. Mr. W. Laurence-Bradley, Surveyor :—

	Per ton.
Blickfeldt & Co.	£1 6 10

TRURO.—For the erection of a house, St. Clement's Hill, for Mr. M. H. Williams. Mr. Wm. Swift, architect, 23, Lemon-street, Truro :—

H. Tippet	£1,153	N. Penter, Polman*	£1,000
C. & J. Harris	1,045		

* Accepted.

WALSALL.—For road-making and other works, Sandwell-street and West Bromwich-road, for the Corporation :—

J. Atkins, Ryecroft, Walsall £132 5 6

WESTGATE-ON-SEA.—For the execution of sewerage works, for the Isle of Thanet Rural District Council. Messrs. Bailey, Denton, Son, & North, engineers, Palace-chambers, Westminster, S.W. :—

Johnson & Co.	£12,681 0 0	Edmund Iles	£11,415 0 0
Wm. Coker	11,804 8 7	A. G. Lockwood & Co.	11,087 0 0
Herbert Weldon	11,648 12 2		
Paramor & Sons	11,599 0 0	B. Cooke & Co.	10,917 0 0

WEYBRIDGE.—For the execution of street works, &c., Southroad, for the Urban District Council. Mr. J. S. Crawshaw, Surveyor, Council Offices, Baker-street, Weybridge :—

S. Kavanagh	£186	Stuart & Turner	£155
G. Hebburn	185	W. Lee & Son, High Wycombe (accepted)	136
W. Norris	173		

WIGSTON MAGNA (Leicester).—For the execution of private street works, Manor-street, and two others (viz., Cherry-street and Clarke's-road), for the Urban District Council. Mr. W. Geo. J. Clark, surveyor, 32, Bell-street, Wigston Magna. Quantities by surveyor :—

Moss & Son	£1,160 0 0	R. Brant	£804 7 8
A. Jewell	1,028 4 11	Stimpson & Rollston, Donnington-street, Leicester (accepted)	794 0 9
Harriet Mason & Son	855 0 0		
Thos. Philbrick	839 15 7		

WILMINGTON.—For alterations and extensions to private residence at Wilmington, Dartford. Mr. St. Pierre Harris, architect, 8, Ironmonger-lane, E.C., and Orpington. Quantities by Messrs. Stanger & Son :—

Gregory & Co.	£1,040 0	Somerford & Son	£999 0
J. Lonsdale	1,026 0	T. Knight	998 0
Snoe & Cobay	1,011 1		

TO CORRESPONDENTS.

B. B. (Amounts should have been stated).

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

PUBLISHER'S NOTICES.

Registered Telegraphic Address, 'THE BUILDER,' LONDON.

CHARGES FOR ADVERTISEMENTS.

SITUATIONS VACANT, PARTNERSHIPS, APPRENTICESHIPS, TRADE AND GENERAL ADVERTISEMENTS.

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Advertisements for the current week's issue are received up to THREE o'clock p.m. on THURSDAY, but "Classification" is impossible in the case of any which may reach the Office after HALF-PAST ONE p.m. on that day. Those intended for the Front Page should be in by TWELVE noon on WEDNESDAY.

SPECIAL.—ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before 10 a.m. on WEDNESDAY MORNING.

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PERSONS Advertising in "The Builder," may have *Replies addressed to the Office*, 46, Catherine-street, Covent Garden, W.C. *free of charge*. Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage.

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